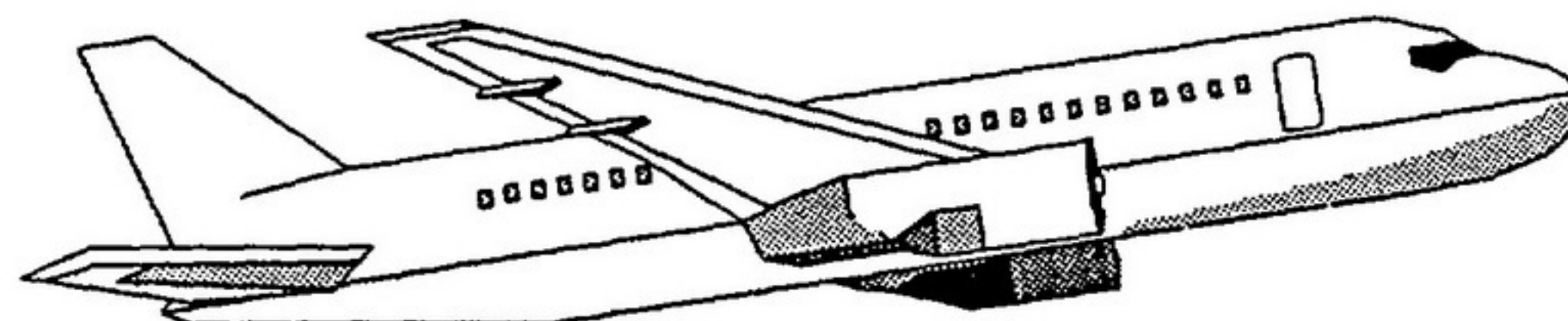


ata



COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

FOR:

9700-G2A & 9700-H2A SERIES
PORTABLE CYLINDER ASSEMBLIES

INCLUDING:

9700-G2A-BF10A	9700-G2A-BF20A	9700-G2A-BF23A
9700-G2A-BF10B	9700-G2A-BF20B	9700-G2A-BF23B
9700-G2A-BF10D	9700-G2A-BF20D	9700-G2A-BF23D
9700-G2A-F10D	9700-G2A-F20D	9700-G2A-F23D
9700-G2A-F10AN	9700-G2A-F20AN	9700-G2A-F23AN
9700-H2A-BF10BN	9700-H2A-BF20BN	9700-H2A-BF23BN

SCOTT[®]

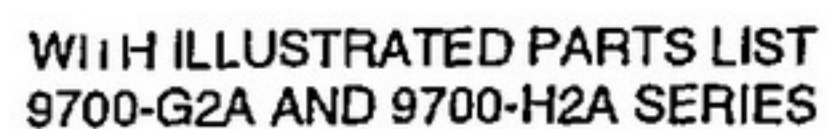
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Page T-1/2

Apr 1/96



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LIST OF EFFECTIVE PAGES

<u>Subject</u>	<u>Page</u>	<u>Date</u>	<u>Subject</u>	<u>Page</u>	<u>Date</u>
Title Page	T-1/2	Apr 1/96	Testing & Fault Isolation	101	Apr 1/96
				102	Apr 1/96
Record of Revisions	RR-1/2	Apr 1/96		103	Apr 1/96
				104	Apr 1/96
Record of Temporary Revisions	RTR-1/2	Apr 1/96		105	Apr 1/96
				106	Apr 1/96
Service Bulletin List	SBL-1/2	Apr 1/96		107	Apr 1/96
				108	Apr 1/96
List of Effective Pages	LEP-1	Apr 1/96		109	Apr 1/96
	LEP-2	Apr 1/96		110	Apr 1/96
Table of Contents	TC-1/2	Apr 1/96	Disassembly	301	Apr 1/96
				302	Apr 1/96
Introduction	INTRO-1	Apr 1/96		303	Apr 1/96
	INTRO-2	Apr 1/96		304	Apr 1/96
	INTRO-3/4	Apr 1/96		305/306	Apr 1/96
Description & Operation	1	Apr 1/96	Cleaning	401	Apr 1/96
	2	Apr 1/96		402	Apr 1/96
	3	Apr 1/96		403	Apr 1/96
	4	Apr 1/96		404	Apr 1/96
	5	Apr 1/96			
	6	Apr 1/96	Check	501	Apr 1/96
	7	Apr 1/96		502	Apr 1/96
	8	Apr 1/96			
	9	Apr 1/96	Repair	601/602	Apr 1/96
	10	Apr 1/96			
	11/12	Apr 1/96			

LIST OF EFFECTIVE PAGES (Continued)

<u>Subject</u>	<u>Page</u>	<u>Date</u>	<u>Subject</u>	<u>Page</u>	<u>Date</u>
Assembly	701	Apr 1/96	Illustrated Parts List (Continued)		
	702	Apr 1/96		1012	Apr 1/96
	703	Apr 1/96		1013	Apr 1/96
	704	Apr 1/96		1014	Apr 1/96
	705	Apr 1/96		1015	Apr 1/96
	706	Apr 1/96		1016	Apr 1/96
	707	Apr 1/96		1017	Apr 1/96
	708	Apr 1/96		1018	Apr 1/96
	709/710	Apr 1/96		1019	Blank
			1020	Apr 1/96	
Fits & Clearances	801/802	Apr 1/96		1021	Apr 1/96
				1022	Apr 1/96
Special Tools, Fixtures and Test Equipment	901/902	Apr 1/96		1023	Blank
				1024	Apr 1/96
Illustrated Parts List	1001	Apr 1/96		1025	Apr 1/96
				1026	Apr 1/96
	1002	Apr 1/96		1027	Blank
	1003	Apr 1/96		1028	Apr 1/96
	1004	Apr 1/96		1029	Apr 1/96
	1005	Apr 1/96		1030	Apr 1/96
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	1007	Apr 1/96		1032	Apr 1/96
	1008	Apr 1/96		1033	Apr 1/96
	1009	Apr 1/96		1034	Apr 1/96
	1010	Apr 1/96		1035	Blank
	1011	Apr 1/96		1036	Apr 1/96
				1037/1038	Apr 1/96

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
Introduction	INTRO-1
Description and Operation	1
Testing and Fault Isolation	101
Automatic Test Requirements (ATLAS)	N/A
Disassembly	301
Cleaning	401
Check	501
Repair	601
Assembly	701
Fits and Clearances	801
Special Tools, Fixtures and Test Equipment	901
Illustrated Parts List	1001

INTRODUCTION

1. Scope

This manual gives the user maintenance, overhaul and service procedures for the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies (PCA). This Component Maintenance Manual (CMM) includes different configurations of the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies, including the following:

9700-G2A-BF10A	9700-G2A-BF20A	9700-G2A-BF23A
9700-G2A-BF10B	9700-G2A-BF20B	9700-G2A-BF23B
9700-G2A-BF10D	9700-G2A-BF20D	9700-G2A-BF23D
9700-G2A-F10D	9700-G2A-F20D	9700-G2A-F23D
9700-G2A-F10AN	9700-G2A-F20AN	9700-G2A-F23AN
9700-H2A-BF10BN	9700-H2A-BF20BN	9700-H2A-BF23BN

This manual provides the following information:

- A. Warnings, Cautions and Notes to be followed while performing service on the PCA.
- B. The proper sequence of operations to be performed on the defined equipment.
- C. Specifications and a list of the tools, equipment and materials for maintenance, check, test and repair of the PCA.

2. Warnings, Cautions and Notes

The Warnings, Cautions and Notes call attention to important information.

A. Warnings

Warnings call attention to the use of materials, processes, methods, procedures or limits which must be followed exactly to avoid personal injury or death.

B. Cautions

Cautions call attention to methods and procedures which must be followed to avoid damage to the equipment.

C. Notes

Notes call attention to methods that make the job easier.

WARNING: ANY SERVICE OR OVERHAUL PERFORMED ON THIS APPARATUS SHALL BE DONE ONLY BY THOSE FACILITIES EXPERIENCED IN, OR BY PERSONNEL KNOWLEDGEABLE IN, AVIATION OXYGEN EQUIPMENT. IF NONE ARE KNOWN, CONTACT SCOTT AVIATION OR ITS DISTRIBUTORS FOR NAMES OF AUTHORIZED SERVICE CENTERS. IMPROPER USE OR IMPROPER MAINTENANCE OF THIS EQUIPMENT MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

ALL PROCEDURES DESCRIBED IN THIS MANUAL SHALL BE PERFORMED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS. COMBUSTIBLE MATERIALS THAT IGNITE WHEN EXPOSED TO OXYGEN MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

DO NOT ALLOW DUST, LINT, FINE METAL FILINGS, OIL, GREASE, AND FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. THESE MATERIALS ARE POTENTIAL SOURCES OF EXPLOSION WHEN EXPOSED TO PRESSURIZED OXYGEN AND MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

3. Product Support Services

Product support services for the PCA covered by this document are provided by Scott Aviation. The services include repair and overhaul, replacement parts, and technical documentation.

Scott Aviation (Vendor Code 53655)
A Figgie International Company
225 Erie Street
Lancaster, New York 14086-9502
U.S.A

Telephone: (716) 683-5100
FAX: (716) 681-1089

4. Verification

<u>Section</u>	<u>Date</u>
Testing and Fault Isolation	Dec 6/95
Disassembly	Nov 14/95
Assembly	Nov 14/95

5. Abbreviations

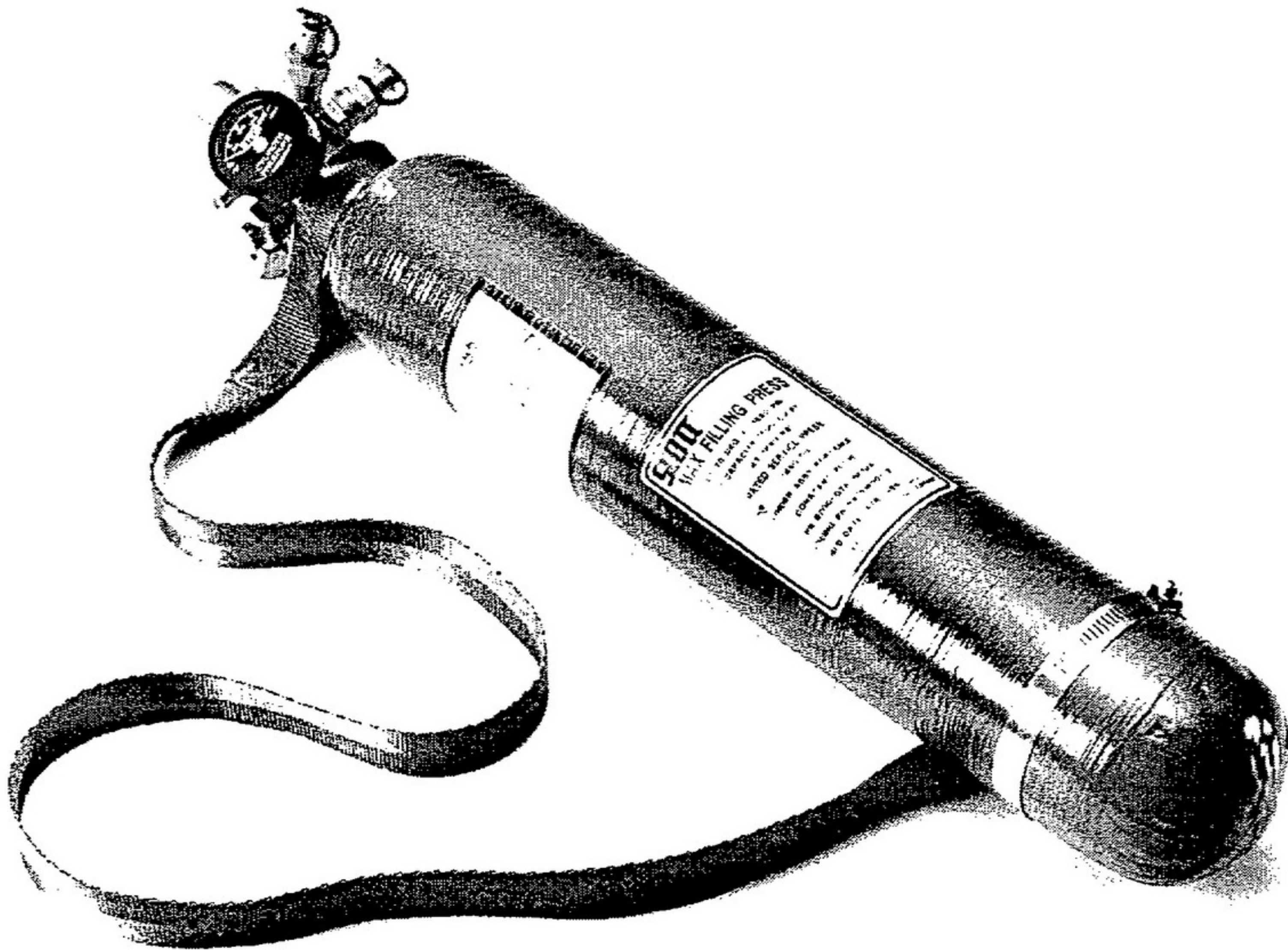
The following is a list of abbreviations found in this manual.

<u>ABBREV.</u>	<u>DEFINITION OF TERM</u>	<u>ABBREV.</u>	<u>DEFINITION OF TERM</u>
ADJ	Adjustment	mg	milligram
AR	As Required	Max	Maximum
ASSY	Assembly	min	minute
		mm	millimeter
BKDN	Breakdown	MPa	MegaPascal
°C	Degrees Celsius	NHA	Next Higher Assembly
cc	cubic centimeters	N•m	Newton meter
CGA	Compressed Gas Association	NO.	Number
cm	centimeter	NP	Not Procurable
CMM	Component Maintenance Manual		Not Provisioned
CONFIG	Configuration	NTPD	Normal Temperature
CYL	Cylinder		Pressure Dry (70 °F, 760 mmHg, Dry)
DOT	Department of Transportation	OPT	Optional
EFF	Effectivity	PCA	Portable Cylinder Assembly
°F	Degrees Fahrenheit	P/N	Part Number
FAR	Federal Aviation Regulation	psi	pounds per square inch
Fig	Figure	psia	psi absolute
ft	feet	psig	psi gauge
ft ³	cubic feet	REG	Regulator
HD	Head	REPLD	Replaced
Hg	Mercury	REPLS	Replaces
hr	hour	RF	Reference
ID	Identification	SPN	Scott Part Number
in	inch	STPD	Standard Temperature
in•lbs	inch-pounds		Pressure Dry (0 °C, 760 mmHg, Dry)
INST	Instructions	SUPSD	Superseded
IPL	Illustrated Parts List	SUPSDS	Supersedes
kg	kilograms	TTL	Total
lbs	pounds	W/	With
lpm	liters per minute		

DESCRIPTION AND OPERATION

1. General

This section describes the components and operation of the 9700-G2A and the 9700-H2A Series Portable Cylinder Assemblies (PCA). Information about part numbers, and how to order Portable Cylinder Assemblies is also presented in this section. Refer to Figure 1 for an illustration of a typical PCA.



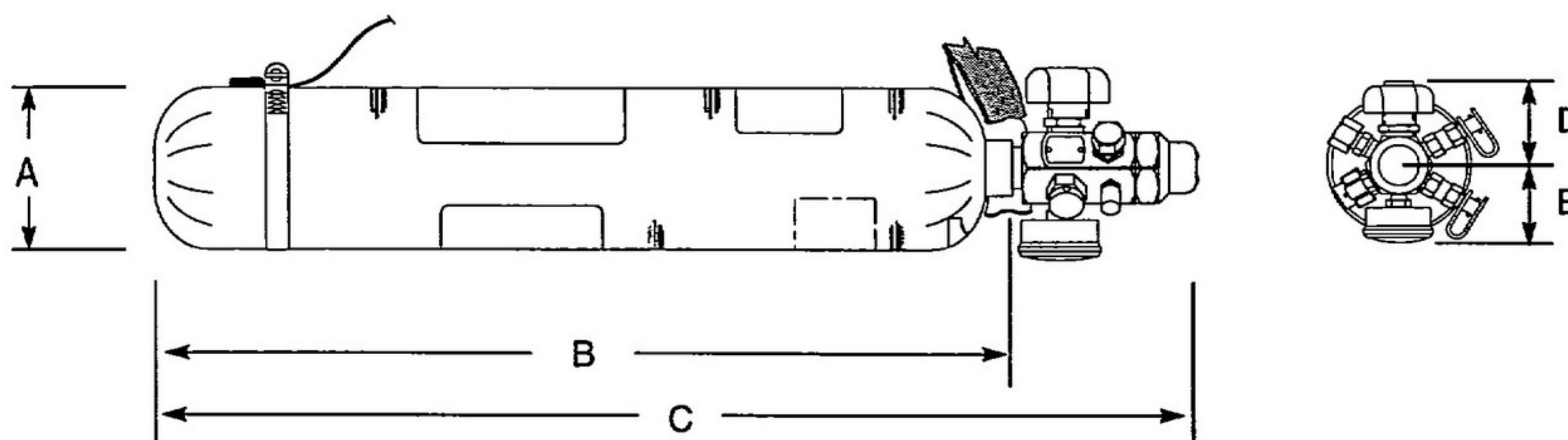
9700-G2A and 9700-H2A Series Portable Cylinder Assembly
Figure 1

2. Leading Particulars

The Leading Particulars for the 9700-G2A and the 9700-H2A Series Portable Cylinder Assemblies are shown in Figure 2.

Envelope Dimensions	See Below
Certification	DOT-E-8162-1850 or DOT-E-8391-1900
Capacity	11.0 ft ³ (312 liters)
Operating Pressure:	
Maximum	1850 psig (12.76 MPa) @ 70 °F (21 °C)
Minimum	14.7 psia (0.101 MPa) @ 70 °F (21 °C)
High Pressure Relief Range	2500-2715 psig (17.24-18.72 MPa)
Charging Valve Threads	0.563-18 UNF-2A
Weight	5.42 lbs. (2.46 kg.) (for 9700-G2A-BF10A)
Regulator Output Pressure	55 ± 2 psig (0.37-0.41 MPa)
Lock-up Pressure	75 psig max (0.52 MPa)
(Outlet pressure @ no output flow)	

Units	A	B	C	D	E
in.	3.56 ± 0.06	18.76 ± 0.13	22.80 Max.	2.31 Max.	2.13 Max.
cm.	9.04 ± 0.15	47.65 ± 0.33	57.91 Max.	5.87 Max.	5.41 Max.



Leading Particulars
Figure 2

3. Purpose of Equipment

The 9700-G2A and the 9700-H2A Series PCA are self-contained, high-pressure, portable oxygen sources that supply supplemental aviation grade oxygen (per Military Specification MIL-O-27210, Type 1) for high altitude breathing and/or therapeutic use.

4. Typical Installation

Each PCA within the 9700-G2A and the 9700-H2A Series PCA has a sling-type carrying strap that attaches to the PCA and makes the PCA portable. One or more PCA may be stored in convenient and accessible locations throughout the aircraft. The number of cylinders required on a particular aircraft is determined by applicable FAR's, number of passengers and the general flight profile of the aircraft. When the PCA must be secured in an aircraft, a set of mounting brackets is available for securing the PCA.

NOTE: Two brackets (Scott Part Numbers 36758-11 & 36758-12) are used for each PCA.

5. Part Number Identification

Part numbers for the PCA are made up of two sections, Series Identification Number and Outlet Configuration. The first section, Series Identification, uses the first seven characters of the part number (excluding the hyphen). The second section of the PCA number, Outlet Configuration, uses the last three characters (or sets of characters) of the part number (excluding the hyphens). Refer to Figure 3 for Part Number Configuration Matrix.

A. Series Identification Number

The Series Identification Number provides information about four sections of the PCA. These four sections of the Series Identification Number are: Basic Part Number, Cylinder Assembly with Regulator Series, Cylinder Finish, and Harness Assembly.

NOTE: The outlet assemblies are also referred to as outlets.

- (1) The Basic Part Number (9700) indicates that a unit is a specific PCA.
- (2) The Cylinder Assembly with Regulator Series indicates a specific type of regulator and cylinder used on the PCA.
- (3) The Cylinder Finish indicates the color/finish of the cylinder and the applicable specification used on the PCA.
- (4) The Harness Assembly indicates the style of harness that attaches to the PCA.

9700-□ 2A-□ □ □

BASIC PART NUMBER

CYLINDER ASSY WITH
REGULATOR, SERIES

(G=21507-06 Cyl. w/ 803199-04 Reg.
H=21507-06 Cyl. w/ 803199-05 Reg.)

CYLINDER FINISH

(2=Green #14187 per FED STD-595)

HARNESS ASSEMBLY

(A=801660-00)

OUTLET FLOW RATE SETTINGS

Config. Letter	B	E	F	Y
Flow Rate (lpm)	2.0	3.0	4.0	Full Flow

NOTE: There may be 1, 2 or 3 Config. Letters in the P/N.

NOTE: Outlet Part Numbers with Config. Letter M, N & S are full flow outlets.

OUTLET ALTITUDE SETTINGS

Configuration Number	0	10	20	23	25
Altitude (ft/meters)	0/ 0	10,000/ 3,048	20,000/ 6,096	23,000/ 7,010	25,000/ 7,620

NOTE: The 0 Altitude is for the full flow outlets (Outlet Part Numbers W/ Config. Letters M, N & S).

OUTLET PART NUMBERS

Config. Letter	A	B	D	K	M	N	S
Part Type	Metered Outlet	Metered Outlet	Metered Outlet	Plug	Full Flow Outlet	Full Flow Outlet	Full Flow Outlet
Part Number	5009 Series	5041 Series	5507 Series	MS27769S2 (6818-01)	802856-01	DPB153	10008298
IPL Fig. #	3	4	5	NO BKDN	6	NO BKDN	NO BKDN

NOTE: To order replacement Outlets, refer to the Part Number Config. Matrix, Figure 1002.

NOTE: There may be 1 or 2 Config. Letters in the P/N. Refer to Part Number Rules, in this section for approved styles and number of outlets.

Portable Cylinder Assembly
(Part Number Configuration Matrix)
Figure 3

5. Part Number Identification (Continued)

B. Outlet Configuration

The Outlet Configuration provides information about three sections of the PCA: Outlet Flow Rate Settings, Outlet Altitude Settings and Outlet Part Numbers that attach to the regulator.

- (1) The Outlet Flow Rate Settings category is represented by one, two, or three configuration letters (refer to Figure 3). The 9700-G2A Series (2 outlet regulator) may have as many as two letters in the part number for this category, which would be a different flow rate for each outlet. The 9700-H2A Series (3 outlet regulator) may have as many as three letters in the part number for this category, which would be a different flow rate for each outlet. The full flow outlets, also called the unmetered outlets, do not have a flow rate that is set by the outlet.
- (2) The Outlet Altitude Settings category is represented by a configuration number (refer to Figure 3) and there is only one number for this category. The number represents the designed altitude of the outlet. A Configuration Number of "0" indicates that there are only full flow outlets and that there are no metered outlets (outlet that has a specific flow rate) used in the application. All other configurations use an Outlet Altitude Settings number greater than 0.
- (3) The Outlet Part Numbers category is represented by up to two configuration letters (refer to Figure 3).

The 9700-G2A Series (2 outlet regulator) may have up to two letters in the part number for this category, which would be two different style outlets. If the same outlet is used more than once, the Outlets category has only one Configuration Letter for that outlet part number.

The 9700-H2A Series (3 outlet regulator) may have up to two letters in the part number for this category, which would be two different style outlets. If the same outlet is used more than once, the Outlets category has only one Configuration Letter for that outlet part number.

6. Part Number Guidelines

There are some guidelines to follow for determining a part number and they are as follows:

- A. The regulator assembly usually has only one style of metered outlet or unmetered outlet attached to it.
- B. When there are two or three of the same metered outlets (the same style), only one Configuration Letter is used in the Outlet Part Numbers category and the quantity of outlets is shown by the number of Configuration Letters in the Outlet Flow Rate Settings category (outlets may have different flow rates).
- C. When there is one Outlet Part Number that has two Configuration Letters for the Outlet Flow Rate Settings and an Outlet Part Number that is full flow, there will be three outlets on the regulator.
- D. When there is only one full flow outlet part number, the number of full flow Configuration Letters in the Outlet Flow Rate Settings category indicates how many outlets are on the regulator.

6. Part Number Guidelines (Continued)

The following are examples of some PCA configurations:

- 9700-G2A-BF10A = 21507-06 Cyl w/ 803199-04 Regulator, #14187 Green Color, 801660-00 Harness, one 5009-2-10 Outlet and one 5009-4-10 Outlet.
- 9700-G2A-F10BN = 21507-06 Cyl w/ 803199-04 Regulator, #14187 Green Color, 801660-00 Harness, one 5041-4-10 Outlet and one DPB153 Outlet (full flow).
- 9700-H2A-BF10BN = 21507-06 Cyl w/ 803199-05 Regulator, #14187 Green Color, 801660-00 Harness, one 5041-2-10 Outlet, one 5041-4-10 Outlet and one DPB153 Outlet (full flow).
- 9700-H2A-BEF10B = 21507-06 Cyl w/ 803199-05 Regulator, #14187 Green Color, 801660-00 Harness, one 5041-2-10 Outlet, one 5041-3-10 Outlet and one 5041-4-10 Outlet.
- 9700-H2A-YYY0N = 21507-06 Cyl w/ 803199-05 Regulator, #14187 Green Color, 801660-00 Harness, w/ three DPB153 outlets (full flow).

NOTE: The Altitude Settings = 0 only when using the full flow outlets.

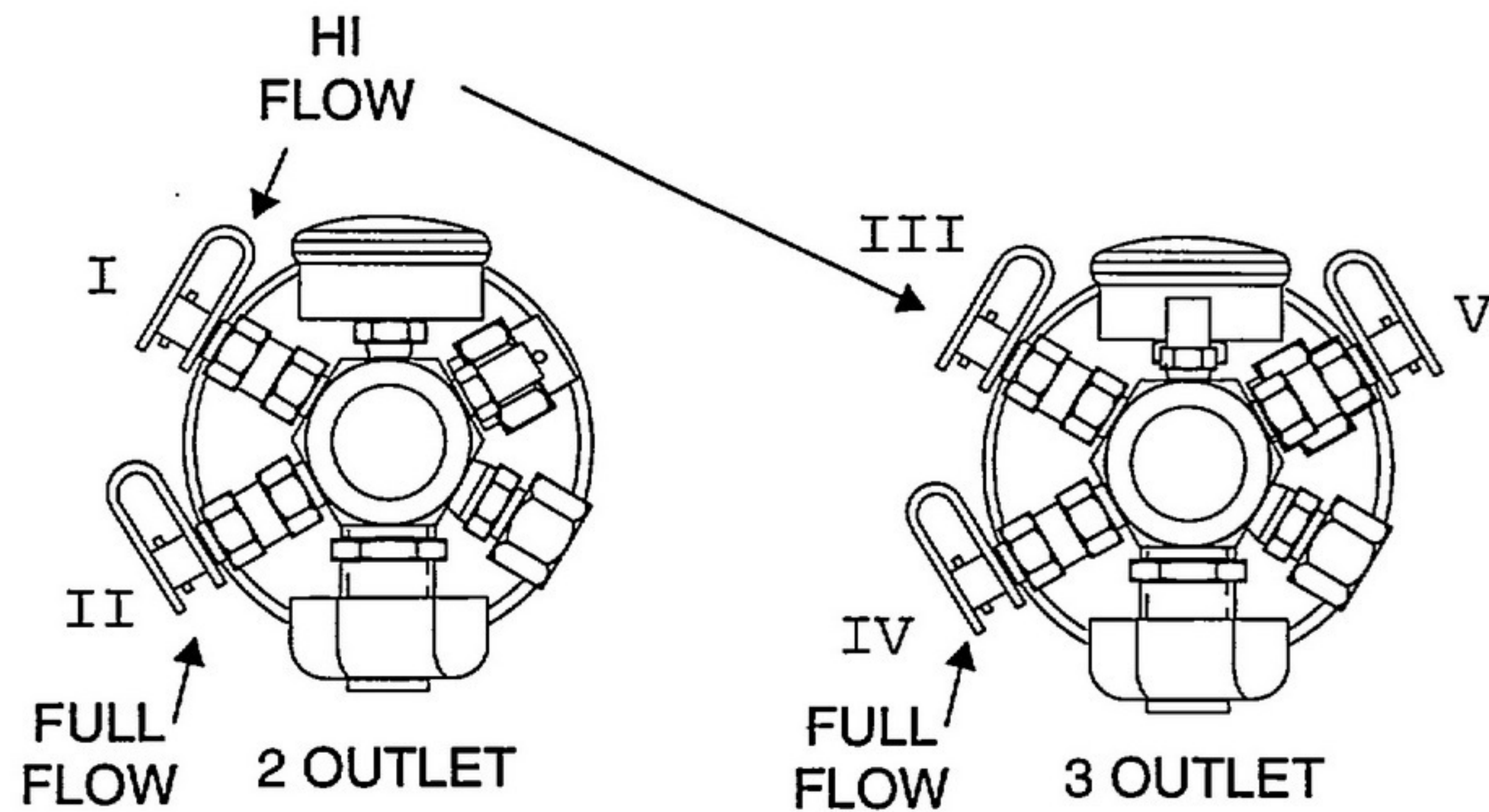
7. Outlet Orientation

The outlets that connect to the regulator are put in specific locations. These locations indicate the types and flow rates of the outlets. When the outlets are connected to the regulator there are specific places where the outlets connect onto the regulator and how they are identified. Refer to Figure 4 for examples of the rules. The following rules must be observed:

- A. The metered (fixed flow) outlet with the highest flow rate is connected to the output port counterclockwise of the pressure gauge.
- B. The unmetered (full flow) outlets are connected to the output port clockwise of the ON/OFF valve assembly.

8. Outlet Markings

- A. When two metered outlets with two different flow rates are installed, there must be a mark on both outlets using a rubber stamp applicator and etching ink (refer to TESTING & FAULT ISOLATION in this manual for part numbers of the etching ink). A "HI" marking, with **red** etching ink, must be on the highest flow outlet. A "LO" marking, with **green** etching ink, must be on the lowest flow outlet.
- B. The outlets must have the flow rate and the altitude stamped into the metal on the exterior of the outlet.



Portable Cylinder Assembly Part Number		Outlet Flow Rate Settings		Outlet Altitude Settings	Outlet Part Numbers		Outlet Position
		Config. Letter	Flow Rate	ft. (meters) X 1000	Config. Letter	Part Number	
2 Outlet Configuration	9700-G2A-BF10A	B F	2.0 4.0	10 (3.0)	A A	5009-2-10 5009-4-10	II I
	9700-G2A-F10BN	F Y	4.0 FULL	10 (3.0)	B N	5041-4-10 DPB153	I II
	9700-G2A-F10D	F -	4.0 -	10 (3.0)	D K	5507-4-10 Plug	I II
	9700-G2A-BB10A	B B	2.0 2.0	10 (3.0)	A A	5009-2-10 5009-2-10	I II
3 Outlet Configuration	9700-H2A-BF10BN	B F Y	2.0 4.0 FULL	10 (3.0)	B B N	5041-2-10 5041-4-10 DPB153	V III IV
	9700-H2A-BEF20B	B E F	2.0 3.0 4.0	20 (6.1)	B B B	5041-2-20 5041-3-20 5041-4-20	V IV III
	9700-H2A-YYY0N	Y Y Y	FULL FULL FULL	0 (0)	N N N	DPB153 DPB153 DPB153	III IV V

Outlet Orientation
Figure 4

9. Operation

The 9700-G2A and the 9700-H2A Series Portable Cylinder Assembly's (PCA) are made of two assemblies: a lightweight composite cylinder (10, IPL Figure 1), and a regulator assembly (20, 20A). The composite cylinder (also referred to as cylinder) stores the high pressure oxygen that is used by the regulator assembly (also referred to as regulator). The regulator for the 9700-G2A Series PCA accepts one or two outlets that adapt mask assemblies to the regulator. The regulator for the 9700-H2A Series PCA accepts one, two or three outlets that adapt mask assemblies to the regulator. The complete part number indicates what outlets, regulator, harness, and cylinder are on the 9700-G2A and the 9700-H2A Series PCA.

A. Cylinder

The cylinder (10, IPL Figure 1) is a United States DOT rated pressure vessel that holds 11.2 ft³ (312 liters) of oxygen gas, at a working pressure of 1850 psig (nominal) and is made of light-weight seamless aluminum with Kevlar® overwrap. The cylinder has a fifteen year service life and must be hydrostatically inspected every three years to assure safe operation.

NOTE: Kevlar is a registered trademark of DuPont, Wilmington, DE 19898.

B. Regulator

The regulator (20, 20A, IPL Figure 1) is a single inlet, multioutlet device that lowers inlet pressure from the cylinder (10) to the outlets (70 thru -110, -130, IPL Figure 1). The regulator has a high -pressure gauge (270, IPL Fig. 2), relief valve assembly (145), safety outlet assembly (-115), charging valve assembly (85) and different outlets that attach to the regulator. Refer to Figure 5 for a cross-sectional view of the regulator.

(1) Non-operational Mode

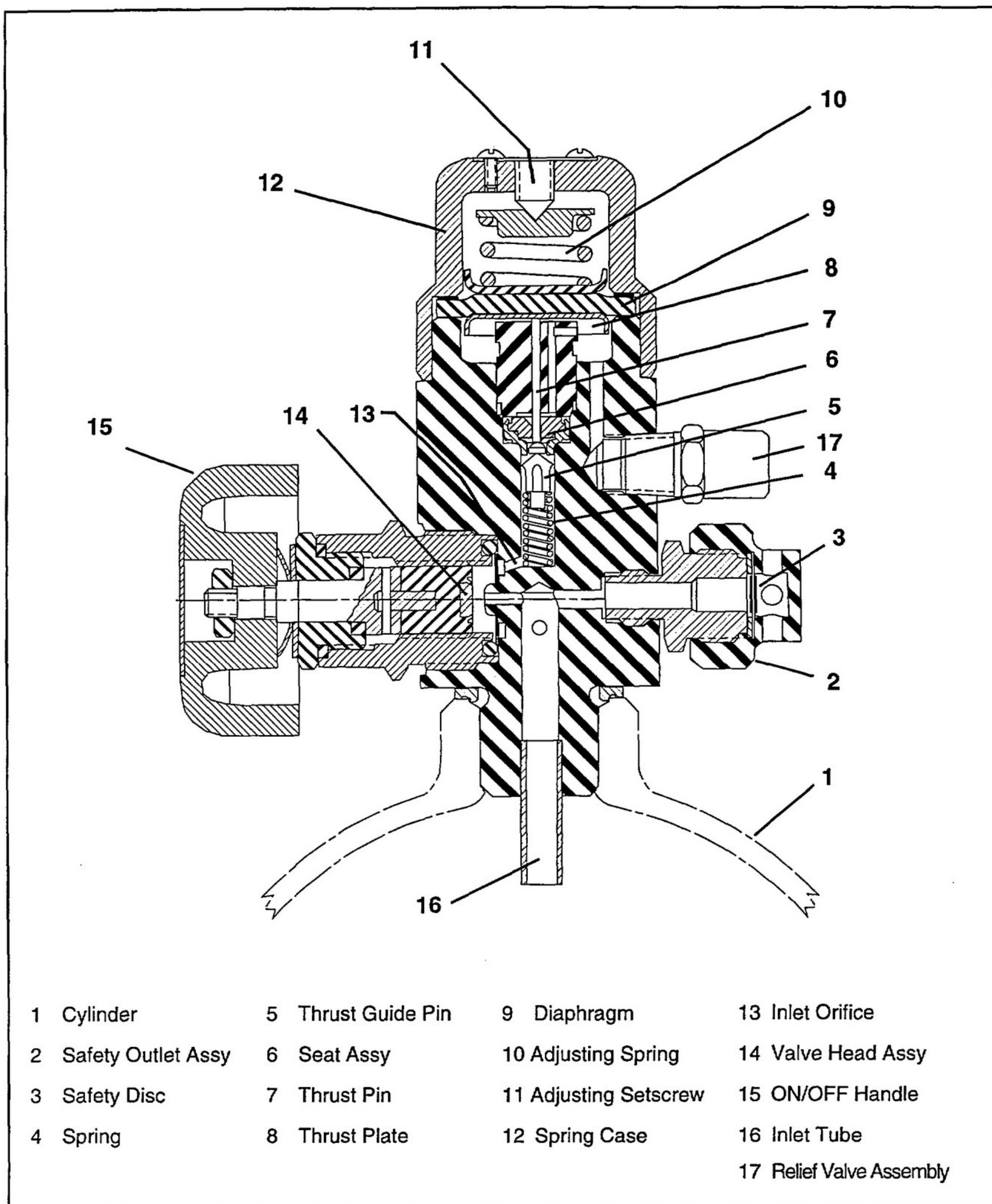
When the regulator is in the non-operational mode ("OFF"), oxygen from the cylinder (1, Fig. 5) is not available at the outlets (70 thru -110, -130, IPL Fig. 2). When the regulator is "OFF," the handle (15, Fig. 5) is fully clockwise in position.

During the non-operational mode, the valve head assembly (14) seals against the inlet orifice and does not permit the high pressure oxygen, from the cylinder, to reach the outlets that attach to the regulator.

(2) Operational Mode

When the regulator is in the operational mode ("ON"), regulated oxygen from the cylinder is available at the outlets. When the regulator is "ON" the ON/OFF handle (15) is fully in the counterclockwise position.

During the operational mode, oxygen from the cylinder passes through the valve head assembly (14) and into the inlet orifice (13). It then is available at the thrust pin (7) and the seat assembly (6). The thrust pin (7) and seat assembly (6) regulate the cylinder pressure to the outlets.



Regulator Cross-Sectional View
Figure 5

9. Operation (Continued)

B. Regulator (Continued)

(2) Operational Mode (Continued)

The diaphragm (9) and the thrust plate (8) push the thrust pin (7) to the "OPEN" position when the outlet pressure is less than the set pressure of the regulator. The outlet pressure, spring (4) and the thrust guide pin (5) push the thrust pin (7) to the "CLOSED" position when the outlet pressure is greater than the set pressure of the regulator.

The adjusting setscrew (11) and the adjusting spring (10) push on the diaphragm at a constant force. This force may be adjusted using the adjusting setscrew (11). The diaphragm is a device that enables two load sources to be separate. The mechanical load from adjusting spring (10) is on one side of the diaphragm and the gaseous (oxygen) pressure is on the other side. When the gaseous pressure that is available at the outlet(s), exceeds the mechanical load of the adjusting spring (10), the thrust pin (7) moves to the "CLOSED" position. When the mechanical load from the adjusting spring (10) is greater than the gaseous pressure at the outlet(s), the thrust pin (7) moves to the "OPEN" position.

C. Regulator Subassemblies

The following subassemblies attach to the regulator:

(1) Relief Valve Assembly

The relief valve assembly (17, Fig. 5) protects the outlets from over-pressure. This assembly will open and close as needed and is continuously available for over-pressure conditions.

When the pressure in the regulator (20, 20A, IPL Fig. 1) exceeds the set pressure, as set by the adjusting setscrew (11, Figure 5), the poppet assembly inside the relief valve moves to the "OPEN" position. This allows oxygen through the relief valve assembly and releases the over-pressure to the atmosphere. The relief valve assembly then decreases the pressure at the outlets and the valve moves to the "CLOSED" position. It is then available for another over-pressure condition as needed.

(2) Safety Outlet Assembly

The safety outlet assembly (2) attaches to the regulator and protects the cylinder from an over-pressure condition. The location of the safety outlet assembly permits continuous operation so that at all times, the cylinder is protected from an over-pressure condition.

The safety outlet assembly is a device that has a safety disc (3) that will rupture if the pressure inside the cylinder is greater than approximately 2500 psig (17.24 MPa). If the safety disc releases pressure from inside the cylinder, the safety disc must be replaced before the cylinder is ready for operation or is ready for the charging mode.

9. Operation (Continued)

C. Regulator Subassemblies (Continued)

(3) Charging Valve Assembly

The charging valve assembly (85, IPL Figure 2) is used to fill the cylinder with high-pressure oxygen. During use of the charging valve assembly the ON/OFF valve (5, IPL Figure 2) must be in the fully counterclockwise direction ("ON") or oxygen will not go into the cylinder.

During the charging mode, the oxygen enters the charging valve assembly and passes through a filter and unseats the valve core (95) inside the charging valve assembly. This permits the oxygen to pass through the charging valve assembly and into the regulator body. The oxygen then must pass through the ON/OFF valve before it enters the cylinder. The cylinder fills until the pressure inside is at the approximate operating pressure (refer to Figure 2 for the operating pressure). The valve core inside the charging valve moves to the "CLOSED" position when the pressure at the charging valve is removed.

(4) Outlet Assembly

The outlets (70 thru -110, -130, IPL Figure 1) in this manual connect to the regulator assembly (20 and 20A) and control the flow rate of the oxygen from the regulator. Each outlet has an internal check valve that permits oxygen flow from the regulator, only when a mating connector is attached to the outlet (refer to TEST & FAULT ISOLATION, Table 104, in this manual for a matrix of mating connectors).

The outlets also are made with a quick-release connector for quickly attaching/removing mask assemblies to/from the regulator. There are two types of outlets that attach to the regulator. The two types are the fixed flow outlet and the full flow outlet. The following paragraphs describe the two types of outlets. Refer to Part Number Identification, Outlet Configuration, in this section of the manual for outlet part number information.

- (a) The fixed flow (metered) outlets contain a check valve and are set to provide a specific flow rate of oxygen from the regulator assembly at a given altitude when the check valve is unseated. The part number for the fixed flow outlet contains information about the flow rate and the altitude.
- (b) The full flow (unmetered) outlets contain only a check valve and do not restrict the flow of oxygen from the regulator assembly when the check valve is unseated. The full flow outlet is used to provide an unrestricted flow of oxygen at regulated pressure to a downstream component, typically a mask-mounted regulator.

TESTING AND FAULT ISOLATION

1. General

This section contains the testing and fault isolation procedures used to evaluate performance of the 9700-G2A and 9700-H2A Series Portable Cylinder Assembly (PCA). Should a PCA need repair and/or have replacement parts installed, the PCA must pass the appropriate testing requirements before it is available for use. Should a failure occur during testing procedures, refer to the troubleshooting chart (Table 105) for fault isolation techniques.

2. Special Tools and/or Test Equipment

Special tools and/or test equipment required to evaluate performance of the 9700-G2A and 9700-H2A Series Portable Cylinder Assembly are presented in Table 101.

Table 101
Special Tools and/or Test Equipment

NOMENCLATURE	PART NO.	MANUFACTURER (Vendor Code)
Flowmeter (0.58 - 5.8 lpm)	1110CC61DBGAA	Brooks Instrument La Habra, CA 90631 (V0S7T0)
Pressure Gauge (0-200 psi (1.38 MPa)) (0-2000 psi (13.8 MPa))	1403 Series	Ametek (U.S. Gauge) Sellersville, PA 18960 (V61349)
Refill Coupling	5020-01	Scott Aviation Lancaster, NY (V53655)
Pigtail Assembly	5082-00	
Mating Connector (5009 Series Outlet)	5065-10	
Mating Connector (5041 Series Outlet)	29559-00	
Mating Connector (5507 Series Outlet)	14807-00	
Mating Connector (DPB153 Outlet)	36857-01	
Mating Connector (802856-01 Outlet)	802857-03	Tescom Corp. Elk River, MN (V5H642)
Regulator, Oxygen (0-150 psi (0-1.03MPa))	26-1622-24	
Regulator, Test (0-2500 psi (0-17.2 MPa))	44-1122-24	
NOTE: Equivalent test equipment may be substituted.		

3. Test Materials

A list of consumable test materials is presented in Table 102. Equivalent materials may be substituted.

Table 102
Consumable Test Materials

MATERIAL	DESCRIPTION	MANUFACTURER (W/ VENDOR CODE)
Etching Ink (red)	P/N S1141 (SPN 50792-01)	Marking Device Mfg. Co. Philadelphia, PA (V26040)
Etching Ink (green)	P/N AX GREEN (SPN 50791-01)	Speciality Ink Co. Inc. Deer Park, NY (V18029)
Oxygen	MIL-O-27210, Type 1	Local Vendor
Rust Inhibiting Leak Test Solution	5cc Sodium Chromate per gallon of water	Allied Signal Corp. Morristown, NJ (V72658)
Leak Test Solution	Sherlock Leak Detector, Type 1 MIL-L-25567D	Winton Products Charlotte NC (V23316)

4. Test Procedure

The Test Procedures that follow must be performed in the order that they are listed and with a cylinder pressure of 1800, +50 psig (12.41, +0.34 MPa). Refer to Cylinder Charging, in this section, for the procedure for charging cylinders if the cylinders are not 1800, +50 psig (12.41, +0.34 MPa).

A. Cylinder Charging

Refer to Fig. 101 and fully charge the cylinder (10, IPL Fig.1) to 1800, +50 psig (12.41, +0.34 MPa) using the following procedure:

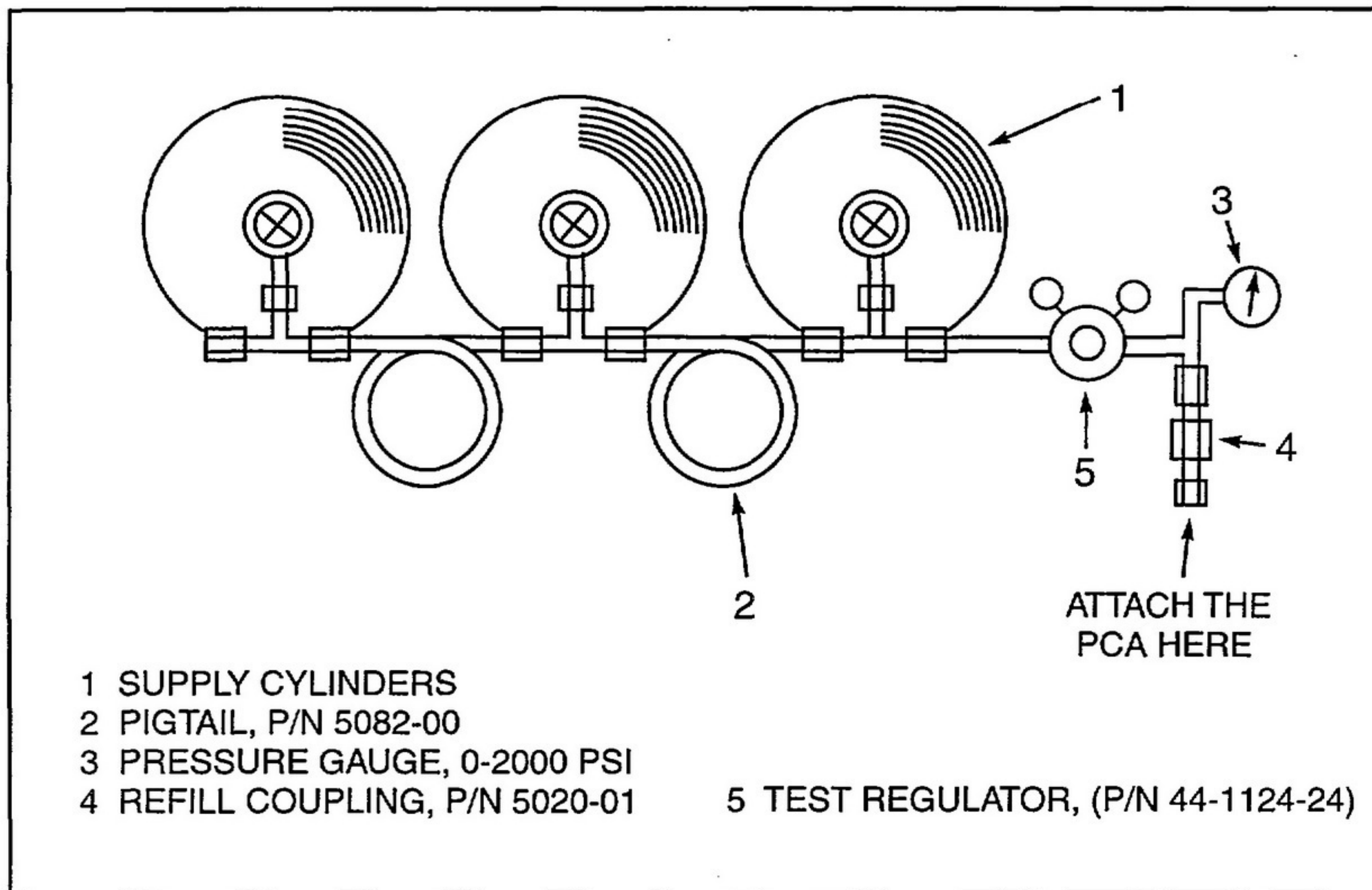
- (1) Look at the pressure on the pressure gauge on the Portable Cylinder Assembly (PCA). If the cylinder pressure is less than 1800, +50 psig, the cylinder must be charged.
- (2) Set the ON/OFF valve of the cylinder assembly to the ON position (fully counterclockwise). Remove the filler cap (80, IPL Fig. 2) on the charging valve assembly (85).
- (3) Attach the test equipment to the charging valve assembly (85) as shown in Figure 101.

4. Test Procedure (Continued)

A. Cylinder Charging (Continued)

- (4) Move the supply cylinder valve to the OPEN position and set the test regulator (5, Fig 101) to fill the cylinder at a rate of **not to exceed 300 psi/minute (0.207 MPa/minute)** until the cylinder internal pressure is 1800, +50 psig. When the pressure gauge on the PCA is 1800, +50 psig, set the cylinder supply valve to the CLOSED position. Remove the PCA from the test equipment and let the cylinder cool to room temperature. After it cools, make sure that the internal pressure is 1800, +50 psig at 70° F (21.1° C).

NOTE: The Refill Coupling (SPN 5020-01) has an internal metered orifice with a charging rate of 300 psi/minute (0.207 MPa/minute).



Cylinder Charging Test Setup
Figure 101

4. Test Procedure (Continued)

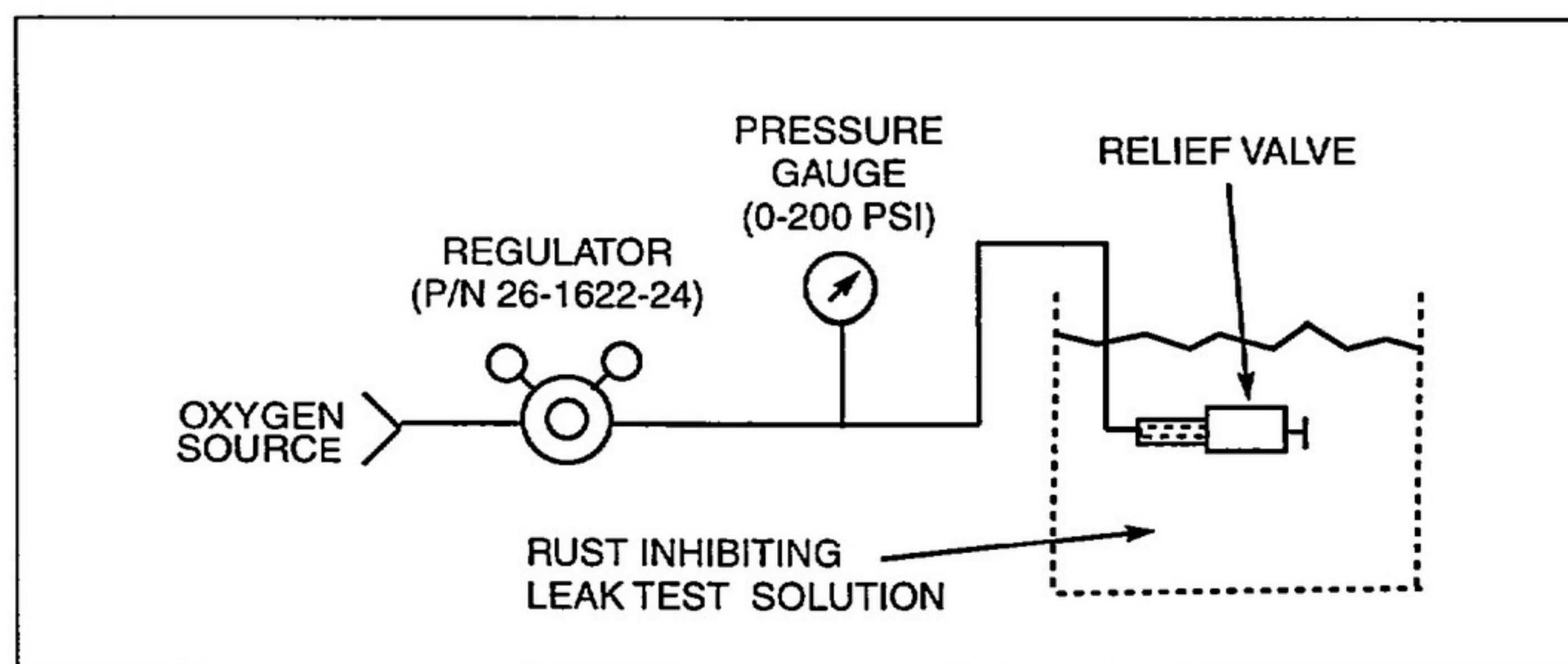
B. Relief Valve Test

The Relief Valve must pass the following test, or replace the relief valve assembly:

WARNING: FAILURE TO SET THE ON/OFF VALVE TO THE OFF POSITION (FULLY CLOCKWISE) WHEN REMOVING PARTS FROM THE REGULATOR MAY CAUSE INJURY OR DEATH.

MAKE SURE THAT ALL CONNECTIONS ARE SEALED. FAILURE TO PROTECT THE INTERNAL PARTS OF THE REGULATOR/CYLINDER FROM MOISTURE OR CONTAMINATION MAY CAUSE PERSONAL INJURY OR DEATH.

- (1) If applicable, remove the relief valve assembly (145, IPL Fig. 2) from the regulator assembly (20, 20A, IPL Fig. 1) (Refer to DISASSEMBLY in this manual).
- (2) Refer to Fig. 102 and attach the relief valve assembly to the test equipment.
- (3) Apply 90 psig (0.62 MPa) to the relief valve assembly. There must be no leaks from the relief valve assembly.
- (4) Apply 130 psig (0.90 MPa) to the relief valve assembly. The relief valve assembly should allow the oxygen to flow through the outlet.
- (5) Lower the pressure from the oxygen source to 90 psig (0.62 MPa). There must be no leaks from the relief valve assembly. Replace the relief valve if the flow of oxygen does not stop.
- (6) Attach the relief valve assembly that passes this test (145, IPL Fig. 2) to the regulator assembly (20, 20A, IPL Fig. 1) (Refer to ASSEMBLY, in this manual).



Relief Valve Test Setup
Figure 102

4. Test Procedure (Continued)

C. Fixed Flow and Adjustable Flow Outlet Assembly Test

Perform the following test on all fixed flow and adjustable flow (metered) outlets (70 thru -90G, IPL Fig. 1) that attach to the regulator assembly (20, 20A, IPL Fig. 1). The outlet must pass the following test, or replace the outlet.

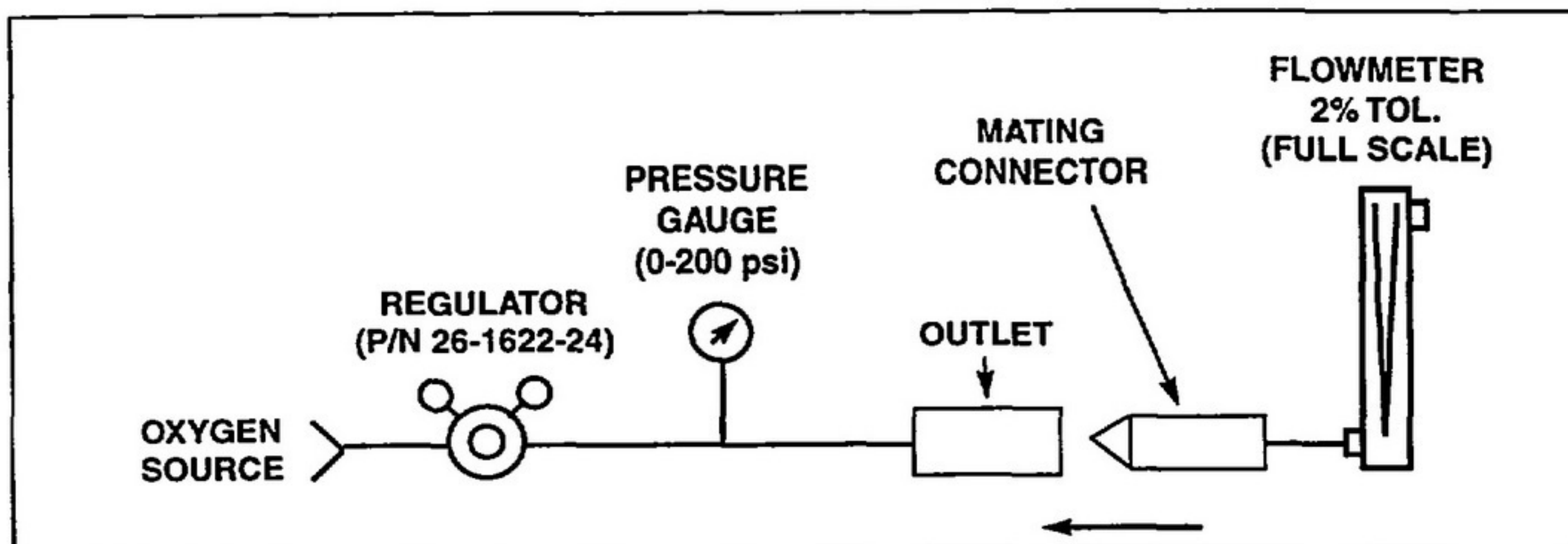
WARNING: FAILURE TO SET THE ON/OFF VALVE TO THE OFF POSITION (FULLY CLOCKWISE) WHEN REMOVING PARTS FROM THE REGULATOR MAY CAUSE INJURY OR DEATH.

MAKE SURE THAT ALL CONNECTIONS ARE SEALED. FAILURE TO PROTECT THE INTERNAL PARTS OF THE REGULATOR/ CYLINDER FROM MOISTURE OR CONTAMINATION MAY CAUSE PERSONAL INJURY OR DEATH.

- (1) If applicable, remove the outlet from the regulator assembly (20, 20A, IPL Fig. 1) (Refer to DISASSEMBLY in this manual).
- (2) Refer to Fig. 103 and attach the outlet to the test equipment.
- (3) Apply Leak Test Solution to the connection of the outlet to the regulator and apply an input pressure of 55, \pm 2 psig (0.38, \pm 0.014 MPa) to the outlet. The outlet must not leak. If the outlet has a leak around the fitting, tighten the outlet so that the outlet does not leak.
- (4) Attach the mating connector to the outlet (refer to Table 104 for a cross-reference of mating connectors). Apply Leak Test Solution to the connections of the flowmeter, mating connector and outlet. No leakage is permitted in any of the connections and oxygen must flow only through the flowmeter.
- (5) Apply 55, \pm 2 psig (0.38, \pm 0.014 MPa) to the input of the outlet and measure the outlet flow at ground level. The flow rate must be within the tolerance of the flow rate in Table 103 (Outlet Assembly Flow Rate) for the specified altitude on the outlet. If the flow rate for the outlet is not within tolerance, replace the outlet.

NOTE: The outlet has the rated output flow and altitude metal-stamped on its side.

- (6) Repeat the above steps, in the Outlet Assembly Test, for each metered outlet on the regulator.
- (7) Attach all the outlets to the regulator assembly and make sure that they have the correct marks on them. Refer to ASSEMBLY for attaching the outlet to the regulator assembly (20, -20A, IPL Fig. 1). Refer to ASSEMBLY, Outlets/Plug/Socket Assemblies, Outlet Marking, in this manual, for details of the correct marks on the outlets.



Outlet Test Setup
Figure 103

Table 103
Outlet Assembly Flow Rate

Outlet Flow Rate Liters/Min. (STPD (760 mm Hg, 0° C))	Altitude - Feet X 1000 (Meters X 1000)			
	10 (3.05)	20 (6.10)	23 (7.01)	25 (7.62)
	Required Ground Level Flow Rate liters/min. (NTPD, 760 mm Hg, 21° C) Permissible Tolerance $\pm 5\%$			
2.0	2.63	2.78	2.82	2.84
3.0	3.85	4.05	4.12	4.15
4.0	4.97	5.20	5.26	5.31
HOW TO USE THIS TABLE: 1. Find the required flow rate, of the outlet, in the left column 2. Follow the row across to the desired altitude 3. Make sure that the outlet under test is within the tolerance specified for the required altitude. (Note: 5% tolerance)				

Table 104:
Outlet Mating Connectors

Outlet P/N	5009 Series	5041 Series	5507 Series	DPB153	802856-01
Mating Connector (P/N)	5065-10	29559-00	14807-00	36857-01	802857-03

4. Test Procedure (Continued)

D. Full Flow Outlet Test

Perform the following steps on all full flow outlets (-100 thru -110A, -130, IPL Fig. 1) that are attached to the Regulator Assembly (20, 20A, IPL Fig. 1). The outlet must pass the following test:

- (1) Apply Leak Test Solution to the connections of the outlets.
- (2) Set the ON/OFF valve (5, IPL Fig.2) to the ON position to apply an input pressure of 55 ± 2 psig (0.38 ± 0.014 MPa) to the outlet. The outlet must not leak. If it has a leak around the fitting, tighten the outlet so that it does not leak. If the outlet has a leak that is not at the fitting, replace the outlet.
- (3) Set the ON/OFF valve to the OFF position (fully clockwise).

E. Regulator Test

The regulator assembly (20, 20A, IPL Fig.1) must have the pressure set correctly for the outlet(s) and be checked for repeatability. Make sure that the PCA is fully assembled. Perform the following procedure:

WARNING: FAILURE TO SET THE ON/OFF VALVE TO THE OFF POSITION (FULLY CLOCKWISE) WHEN REMOVING PARTS FROM THE REGULATOR MAY CAUSE INJURY OR DEATH.

MAKE SURE THAT ALL CONNECTIONS ARE SEALED. FAILURE TO PROTECT THE INTERNAL PARTS OF THE REGULATOR/ CYLINDER FROM MOISTURE OR CONTAMINATION MAY CAUSE PERSONAL INJURY OR DEATH.

- (1) Set the ON/OFF valve (5, IPL Fig. 2) to the OFF position (fully clockwise).
- (2) Remove one of the outlets/outlet plugs (70 thru -130, IPL Fig. 1) from the regulator and install a 0-200 psi (0-0.69 MPa) pressure gauge.
- (3) Set the ON/OFF valve (5) to the ON position (fully counterclockwise).
- (4) Connect to one of the full flow outlets or an outlet with 4.0 lpm flow rate, a needle valve or a mask plug-in and set the flow rate of the outlet to 4.0 lpm.
- (5) If necessary, set the pressure at the outlet assembly(s) to $55, \pm 2$ psig ($0.38, \pm 0.014$ MPa) as read on the 0-200 psi pressure gauge, by the adjustment of the setscrew (180) for the first time only.
- (6) Set the ON/OFF valve (5) to the OFF position (fully clockwise).
- (7) Repeat the last two steps a total of ten times and make sure that the pressure to the outlet assembly(s) is $55, \pm 2$ psig ($0.38, \pm 0.014$ MPa) when the ON/OFF valve (5) is in the OPEN position.

NOTE: The pressure of the regulator must remain within $55, \pm 2$ psig ($0.38, \pm 0.014$ MPa) and not be readjusted for the ten times.

- (8) Disconnect the needle valve or the mask plug-in from the outlet assembly.

4. Test Procedure (Continued)

E. Regulator Test (Continued)

- (9) Set the ON/OFF valve (5) to the ON position (fully counterclockwise).
- (10) The pressure on the pressure gauge, must be less than 75 psig (0.52 MPa) with no leakage of oxygen from the outlet(s).
- (11) Set the ON/OFF valve (5) to the OFF position (fully clockwise).

WARNING: MAKE SURE THAT THE LEAK TEST SOLUTION OR OTHER CONTAMINANTS DO NOT LEAK INTO THE UNIT. FAILURE TO PROTECT THE INTERNAL PARTS OF THE REGULATOR/CYLINDER FROM MOISTURE OR CONTAMINATION MAY CAUSE PERSONAL INJURY OR DEATH.

- (12) Remove the pressure gauge from the regulator assembly (20, -20A, IPL Fig. 1) and connect the outlet/outlet plug (70 thru -130, IPL Fig. 1) (refer to ASSEMBLY in this manual) that was removed for testing of the pressure gauge.
- (13) Set the ON/OFF valve (5, IPL Fig. 2) to the ON position (fully counterclockwise) and place the PCA in the Rust-inhibiting Leak-test Solution for two minutes. The PCA must not leak more than 5 cc/hr (as indicated by bubbles) from any part of the Portable Cylinder Assembly.
- (14) Remove the PCA from the rust-inhibiting leak-test solution and air dry the unit. Let the PCA set for 24 hours with the ON/OFF valve (5) in the ON position (fully counterclockwise) and with 1800, +50, psig (12.41, +0.34, MPa) cylinder pressure. Repeat the previous step. The PCA must not leak more than 5 cc/hr (as indicated by bubbles).
- (15) Set the ON/OFF valve (5) to the OFF position (fully clockwise).

5. Fault Isolation

Refer to Table 105 for troubleshooting problems, causes and solutions. Refer to IPL Figure 2 for item numbers, except for the item numbers that have IPL Fig. numbers shown.

Table 105
Troubleshooting Chart

TROUBLE	PROBABLE CAUSE	SOLUTION
A. LEAKAGE:		
Connection between outlet/outlet plug (70 thru -130, IPL Fig. 1), relief valve assembly (145), or gauge (270) and body (265/-265A) leaks	Unit(s) does not have correct seal using sealing tape Thread damage Part(s) not tight in body	Assemble part that leaks to body (refer to <u>ASSEMBLY</u> para. 10., 8., or 11.) Replace damaged part Retorque part (refer to Table 801)
Connection between charging valve assembly (85) and body (265/-265A) leaks	Unit(s) does not have correct seal using sealing tape Thread damage Part(s) not tight in body	Assemble part that leaks to body (refer to <u>ASSEMBLY</u> para. 6) Replace damaged part Retorque part (refer to Table 801)
Connection between safety outlet assembly (-115) and body (265/-265A) leaks	Unit(s) does not have correct seal using sealing tape Part not tight in body Thread damage Defective safety disc (125) or gasket (130)	Assemble part that leaks to body (refer to <u>ASSEMBLY</u> para. 7., or 11.) Retorque part (refer to Table 801) Replace damaged part Clean safety outlet assembly and replace safety disc or gasket (refer to <u>ASSEMBLY</u> para. 7)
Leaks past core (-95) of charging valve assembly (85)	Loose or defective charging valve assembly (85)	Replace charging valve assembly (refer to <u>ASSEMBLY</u> para. 6)
Connection between bushing (70) and body (265/-265A) leaks	Bushing (70) not tight in body Defective packing (65)	Retorque part (refer to Table 801) Replace packing (refer to <u>ASSEMBLY</u> para. 5)
Connection between bushing (70) and nut (40) leaks	Loose nut (40) Defective packing (45)	Tighten nut (refer to <u>ASSEMBLY</u> para. 5) Replace packing (refer to <u>ASSEMBLY</u> para. 5)
Connection between stem (50) and nut (40) leaks	Defective teflon seat (55) Contamination of teflon seat	Replace teflon seat (refer to <u>ASSEMBLY</u> para. 5) Clean teflon seat (refer to <u>CLEANING</u>) and replace (refer to <u>ASSEMBLY</u> para 5.)

Table 105
Troubleshooting Chart

TROUBLE	PROBABLE CAUSE	SOLUTION
B. RELIEF PRESSURE:		
Relief valve (145) does not open at the correct pressure	Defective relief valve (145)	Replace relief valve (refer to <u>ASSEMBLY</u> para. 8)
C. OXYGEN SHUT OFF:		
ON/OFF valve (5) does not stop the flow of oxygen	Defective valve head assembly (60)	Replace valve head assembly (refer to <u>ASSEMBLY</u> para. 5)
D. OUTLET PRESSURE:		
Regulator (20/ 20A IPL Fig. 1) does not have correct outlet pressure	Regulator must be adjusted	Adjust regulator (refer to para. 4.E. of this section)
	Defective valve seat in body (265, -265A)	Replace body
Regulator (20/ 20A IPL Fig. 1) does not keep correct outlet pressure	Defective seat (225) or pin (230)	Replace seat/pin (refer to <u>ASSEMBLY</u> para. 9)
	Defective diaphragm (210)	Replace diaphragm (refer to <u>ASSEMBLY</u> para. 9)
	Diaphragm (210) does not seal	Remove and carefully install diaphragm (refer to <u>ASSEMBLY</u> para. 9)
E. FLOW REQUIREMENTS:		
Outlet assembly(s) (70 thru -90G, IPL Fig. 1) does not have correct flow rate	Worn or damaged outlet assembly parts	Replace outlet assembly (refer to <u>ASSEMBLY</u> para. 10)

DISASSEMBLY

1. General

This section describes the equipment and procedures necessary for disassembly of the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies (PCA's). Most repair procedures do not require complete disassembly of the PCA. Disassemble units only to the level necessary as determined in TESTING AND FAULT ISOLATION, in this manual, to repair/replace components.

To simplify disassembly of the PCA's, each major functional group of components contained in the PCA's has a separate paragraph dedicated to the disassembly and/or removal of that functional group. The functional groups of components are listed below together with the paragraph number within this section that describes the disassembly/removal procedure.

<u>Paragraph</u>	<u>Functional Group</u>
3.A.	General Disassembly
3.B.	Outlet/Outlet Plug Disassembly
3.C.	First Stage Disassembly
3.D.	Relief Valve Disassembly
3.E.	Safety Outlet Disassembly
3.F.	Charging Valve Disassembly
3.G.	ON/OFF Valve Kit Disassembly

2. Special Tools and Equipment

There are no special tools required for disassembly of the Portable Cylinder Assembly (PCA).

3. Disassembly

WARNING: THE PCA MUST BE FULLY DISCHARGED OF OXYGEN PRIOR TO THE DISASSEMBLY OF ANY PART OF THIS ASSEMBLY OR PERSONAL INJURY OR DEATH MAY OCCUR

This section provides the details for disassembly of the 9700-G2A and 9700-H2A Series PCA units. Unless otherwise noted all disassembly procedures apply equally to both the 9700-G2A and 9700-H2A Series PCA's.

A. General Disassembly

Refer to ILLUSTRATED PARTS LIST (IPL) Fig. 1 and disassemble the following items:

- (1) Loosen clamp (40) from around composite cylinder (10) (also referred to as cylinder) and remove clamp from assembly.
- (2) Remove harness (30) from neck of cylinder (10). The regulator assembly (20, 20A) will be small enough so that the loop end of the harness will go over it.
- (3) Unthread regulator assembly (20, 20A) counterclockwise from cylinder (10).

3. Disassembly

A. General Disassembly (Continued)

- (4) Remove and discard metal boss seal (250, IPL Fig. 2).
- (5) Remove gauge (270, IPL Fig. 2).
- (6) Remove decals (60, 140, 150, IPL Fig.1) and ID plate (50) only if damaged.

B. Outlet/Outlet Plug Disassembly

Refer to IPL Fig. 1 and remove outlet assemblies and/or outlet plugs (70 thru -130) from regulator assembly (20, 20A). The outlet assemblies and outlet plugs loosen in the counterclockwise direction.

The outlets may need disassembly if replacement parts are necessary or if there is a malfunction of the outlet. Disassemble the following outlets as required:

(1) 5009 Series Outlet (refer to IPL Fig. 3 for item numbers)

NOTE: Replacement parts for: orifice adj. screen (20), screen (30), cord (40), outlet assembly (-50), stud (60), flow port (100), filter (110), retaining ring (120), gasket (130), outlet subassembly (-150), stud (200), and/or series orifice (210) are not available. Do not disassemble the parts listed in this note.

- (a) Unthread and remove receptacle (140, 160) counterclockwise from stud (200, 60).
- (b) Remove spring (70, 190), valve (80, 180) and gasket (90, 170) from receptacle (140, 160). Discard gasket.

(2) 5041 Series Outlet (refer to IPL Fig. 4 for item numbers)

NOTE: Replacement parts for: screw (20), screen (30), cord (40), outlet assembly (-50), body (60, 190), outlet subassembly (-160) and/or series orifice (280) are not available. Do not disassemble the parts listed in this note.

- (a) Unthread nut (150, 240) counterclockwise and remove.
- (b) Remove washer (130A, 170A), cap (130, 170) and dust cover (10, 180) from case (100, 230).
- (c) Remove springs (110, 260) from pins (120, 270).
- (d) Loosen setscrew (140, 250) counterclockwise in case (100, 230).
- (e) Unthread body (60, 190) counterclockwise from case (100, 230).
- (f) Remove spring (70, 200), valve (80, 210) and valve seat (90, 220) from case (100, 230). Discard valve seat.

3. Disassembly (Continued)

B. Outlet/Outlet Plug Disassembly (Continued)

(3) 5507 Series Outlet (refer to IPL Fig. 5 for item numbers)

NOTE: Replacement parts for: screw (10), screen (20), cord (30), outlet assembly (-40, -40A), body (110, 110A) and/or series orifice (150) are not available. Do not disassemble the parts listed in this note.

- (a) Unthread screw (140) counterclockwise and remove.
- (b) Remove torsion spring (120) and dust cover (130) from threaded adapter assembly (50).
- (c) Unthread threaded adapter assembly (50) counterclockwise from body (110, 110A).
- (d) Remove flattened washer (60), washer (70), gasket (80), poppet (90) and flow stop spring (100) from body (110, 110A). Discard gasket.

(4) 802856-01 Outlet (refer to IPL Fig. 6 for item numbers)

- (a) Remove dust cover (40) from disconnect fitting (20).
- (b) Unthread disconnect body (100) counterclockwise from disconnect fitting (20) and remove.
- (c) Remove poppet spring (70), disconnect poppet (80) and quad ring (90) from disconnect body (100).
- (d) Remove and discard preformed packing (110) from exterior of disconnect body (100).
- (e) Remove and discard preformed packing (120) from interior of disconnect body (100).
- (f) Remove and discard preformed packing (60) from exterior of disconnect fitting (20) or interior of disconnect body (100).

(5) DPB153 Outlet

There are no replacement parts for this assembly. Replacement of the outlet is required if there is malfunction of the outlet.

3. Disassembly (Continued)

C. First Stage Disassembly

Refer to IPL Fig. 2 and disassemble the following items:

- (1) Remove two pan head screws (175) and then ID plate (170) from spring case (185).
- (2) Unthread and remove setscrew (180) and spring case (185) counterclockwise.
- (3) Remove spring guide (190), adjusting spring (195), diaphragm plate (200), slip ring (205), diaphragm (210) and thrust plate (215) from regulator body (265, -265A). Discard diaphragm.
- (4) Turn seat holder (220) counterclockwise and remove seat holder from regulator body (265, -265A).
- (5) Remove seat assembly (225), thrust pin (230), thrust pin guide (235) and spring (240) from regulator body (265, -265A).

D. Relief Valve Disassembly

Refer to IPL Fig. 2 and disassemble the following items:

Turn the relief valve assembly (145) counterclockwise and remove from regulator body (265, -265A).

E. Safety Outlet Disassembly

Refer to IPL Fig. 2 and disassemble the following items:

- (1) Turn safety plug (135) counterclockwise and remove from regulator body (265, -265A).
- (2) Remove and discard washer (140).
- (3) Remove cap (120) from safety plug (135).
- (4) Remove safety disc (125).
- (5) Remove and discard gasket (130).

F. Charging Valve Disassembly

Refer to IPL Fig. 2 and disassemble the following items:

- (1) Turn the charging valve assembly (85) counterclockwise and remove from regulator body (265, -265A).
- (2) Remove and discard filters (105 and 110).
- (3) Remove filler cap assembly (80) from charging valve assembly (85).

3. Disassembly (Continued)

G. ON/OFF Valve Kit Disassembly

Refer to IPL Fig. 2 and disassemble the following items:

- (1) Remove ID plate (10) from handle (15). Discard ID plate.
- (2) Unthread nut (20) counterclockwise and remove from valve stem (50).
- (3) Remove external lock washer (25), handle (15), spring washer (30), and flat washer (35).
- (4) Remove lockwire that attaches packing nut (40) to regulator body (265, -265A).
- (5) Unthread packing nut (40) counterclockwise and remove from bushing (70).
- (6) Remove preformed packing (45), teflon seat (55), and valve stem (50). Discard preformed packing.
- (7) Unthread valve head assembly (60) counterclockwise and remove from bushing (70).
- (8) Unthread bushing (70) counterclockwise and remove from regulator body (265, -265A). Remove and discard preformed packing (65) and filter (75).

WARNING: MAKE SURE THAT ALL CONNECTIONS ARE SEALED. FAILURE TO PROTECT THE INTERNAL PARTS OF THE REGULATOR/CYLINDER FROM MOISTURE OR CONTAMINATION MAY CAUSE PERSONAL INJURY OR DEATH

CLEANING

1. General

This section contains information about the equipment and the procedures for cleaning the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies (PCA). Before cleaning the PCA's, units shall be disassembled using the procedures in DISASSEMBLY, in this manual.

2. Safety

WARNING: FAILURE TO USE SUITABLE EYE PROTECTION DURING CLEANING PROCEDURES MAY CAUSE INJURY TO THE EYES.

WHEN USING CLEANING SOLVENTS, AVOID PROLONGED OR REPEATED CONTACT WITH SKIN AND INHALATION OF TOXIC VAPORS OR SERIOUS PERSONAL INJURY MAY OCCUR.

MAKE SURE THAT CLEANING PROCEDURES ARE PERFORMED IN AN APPROVED CLEANING CABINET, OR IN A WELL VENTILATED ROOM OR AREA, OR PERSONAL INJURY MAY OCCUR.

DO NOT USE SOLVENTS NEAR OPEN FLAMES, OR IN AREAS WHERE THERE ARE HIGH TEMPERATURES, OR PERSONAL INJURY, FIRE OR EXPLOSION MAY OCCUR.

DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. DUST, LINT, AND FINE METAL FILINGS ARE ALSO POTENTIAL COMBUSTIBLES THAT MIGHT IGNITE, AND RESULT IN EXPLOSION OR FIRE WHEN EXPOSED TO PRESSURIZED OXYGEN.

3. Cleaning Materials

A list of cleaning materials is shown in Table 401. Equivalent materials may be substituted.

**Cleaning Materials
Table 401**

MATERIAL	DESCRIPTION	MANUFACTURER (W/ VENDOR CODE)
Non-Ionic Detergent	Type I (MIL-D-16791)	Commercially Available
Degreasing Agent	Genesolv 2000 or 1, 1-Dichloro-1-fluoroethane	Allied Signal Corp. Morristown, NJ (V72658)
Neutralizing/ deodorizing agent	Versadet	Oakite Products Berekly Heights NJ (V44389)

4. Cylinders

Refer to Fig. 401 and clean the 9700-G2A and the 9700-H2A Series PCA using the procedures below.

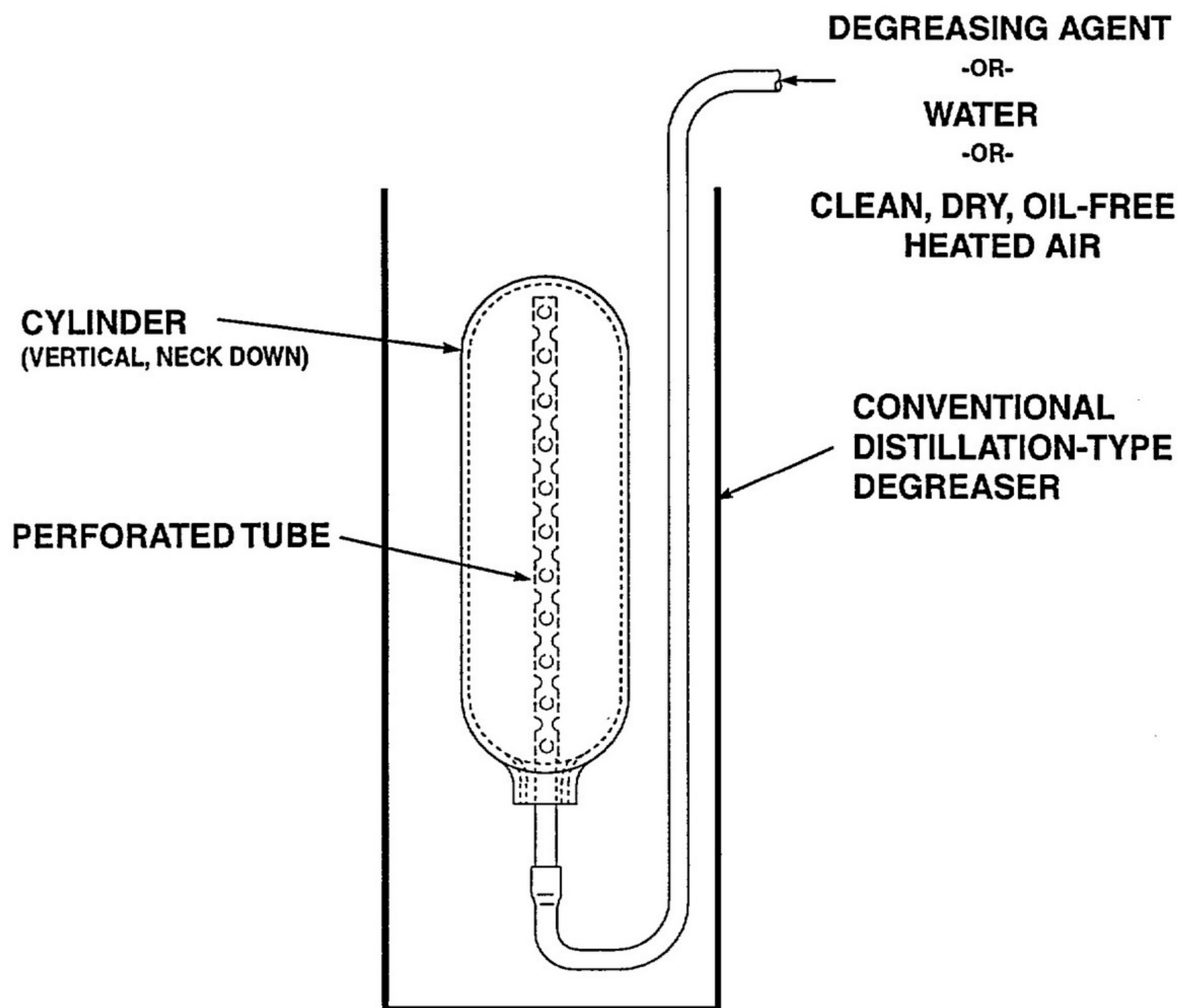
A. Clean the outside of the cylinder as follows:

- (1) Seal the opening at the neck of the cylinder.
- (2) Clean the outside of the cylinder using a soft-bristled brush and a clean, hot (104°-140° F, 40°-60° C) 1% solution of nonionic detergent and water. Mix approximately 1.3 oz. (38 cc) of nonionic detergent with 1 gallon (3.785 liters) of water for a 1% solution.
- (3) Flush the outside of the cylinder using clean water.
- (4) Dry the outside of the cylinder with clean, dry, oil-free air.

B. Clean the inside of the cylinder as follows:

- (1) Clean the neck and threads of the cylinder with a wire brush as needed.
- (2) Shake out any foreign matter or material from inside the cylinder.
- (3) Put the cylinder in the degreaser as shown in Fig. 401.
- (4) Use the perforated tube and clean the inside of the cylinder with degreasing agent set at 87-90 °F (31-32 °C) for 3 minutes. Adjust the the flow rate of the degreasing agent to 6-8 feet (1.83-2.44 meters) of head per cleaning station.

NOTE: The length and diameter of the perforated tube is a function of the size of the cylinder.



Cleaning Setup
Figure 401

- (5) Let the degreasing agent drain from the cylinder for one minute.
- (6) Dry the cylinder using clean, dry, oil-free, heated (180-200 °F, 82-93 °C) air through the perforated tube (with a 0.25 inch discharge orifice) for one minute using 12.5 psig air pressure.
- (7) Flush the cylinder with clean, heated (160°-180° F, 71°-82° C) water through the perforated tube for two minutes minimum. Flow rate for the heated water must be 1.2 gallons (4.5 liters) per station per minute minimum.
- (8) Let the water drain completely from the cylinder.
- (9) Dry the inside of the cylinder with clean, dry, oil-free, heated (180-200 °F, 82-93 °C) air through the perforated tube (with a 0.25 inch discharge orifice) for four minutes minimum. Set the air pressure at 12.5 psig (0.086 MPa). The inside of the cylinder must be completely dry.
- (10) Remove the cylinder from the cleaning setup and allow it to cool it to room temperature.

5. Cylinder Cleanliness

Make sure that the cylinder is clean in accordance with Federal Specification RR-C-901 with the exception that hydrocarbon contamination of the cylinder must not be greater than 1.0 mg. per square foot of the surface area washed.

Make sure that the cylinder is without odor. If the cylinder has an odor, perform the following procedure:

- A. Flush the cylinder with heated (180-200 ° F, 71°-82° C) neutralizing/deodorizing agent (specified in Table 401) through the perforated tube for five minutes minimum. Mix 2 dry-ounces (57 grams) of neutralizing/deodorizing agent per gallon (3.785 liters) of water. Adjust the the flow rate of the solution to 6-8 feet (1.83-2.44 meters) of head per cleaning station.
- B. Flush the cylinder with clean, heated (160°-180° F, 71°-82° C) water through the perforated tube for two minutes minimum. Flow rate for the heated water must be 1.2 gallons (4.5 liters) per station per minute minimum.
- C. Let the water drain completely from the cylinder.
- D. Dry the inside of the cylinder with clean, dry, oil-free, heated (180-200 °F, 82-93 °C) air through the perforated tube (with a 0.25 inch discharge orifice) for four minutes minimum. Set the air pressure at 12.5 psig (0.086 MPa). The inside of the cylinder must be completely dry.

6. Metallic Components

Clean metallic components using a vapor degreasing method with degreasing agent specified in Table 401. Dry components with clean, dry, oil-free, heated (87-90 °F, 31-32 °C) air.

Make sure that the cylinder is clean in accordance with Federal Specification RR-C-901 with the exception that hydrocarbon contamination of the cylinder must not be greater than 1.0 mg. per square foot of the surface area washed.

7. Non-Metallic Components

Clean non-metallic components (except cylinder, IPL Figure 1, Item 10) using a 1% solution of nonionic detergent and water cleaning system. Mix approximately 1.3 oz. (38 cc) of nonionic detergent with 1 gallon (3.785 liters) of water for a 1% solution. Parts shall be completely rinsed with clear water, and dried using clean, dry, oil-free, heated (180-200 °F, 82-93 °C) air.

Make sure that the cylinder is clean in accordance with Federal Specification RR-C-901 with the exception that hydrocarbon contamination of the cylinder must not be greater than 1.0 mg. per square foot of the surface area washed.

NOTE: Do not clean o-rings, diaphragm, packings, filters, gaskets and nonmetallic seals. These items must be replaced every time they are removed during dis-assembly.

CHECK

1. General

After disassembly and cleaning of any component, assembly or unit, the part(s) must have a check before assembly of that part(s). If there is any question that a part is not serviceable, replace it.

NOTE: Do not examine filters, diaphragm, o-rings, packings, gaskets and nonmetallic seals. These items must be replaced each time they are removed during disassembly.

2. Composite Cylinders

Composite cylinders (10, IPL Fig. 1) must have a check as shown below:

- A. Look at the last date of hydrostatic testing of the cylinder. Hydrostatic inspection dates will either be shown on the cylinder neck, and/or be shown on the epoxy coating of the cylinder in a permanent manner. The original test date for the cylinder is shown on the manufacturer's identification plate.

Hydrostatic testing must be performed at least every three years. If the cylinder must have a hydrostatic test, the hydrostatic test must be in accordance with prescribed procedures by facilities holding a current, valid DOT Approval.

- B. Service life must not exceed 15 years.

NOTE: Refer to DOT-E-8162 and DOT-E-8391, Hazardous Materials Regulations of the Department of Transportation (49 CFR 107.103 and 107.105) for regulations about the cylinders.

Refer to "Guidelines for Visual Inspection & Requalification of Fiber Reinforced High Pressure Cylinders" (CGA Pamphlet No. CGA C-6.2).

For Cylinder Inspection and Hydrostatic Retest, the use of Compressed Gases Association (CGA) pamphlets C-1, C-2, C-6, and C-6.1 are recommended. These are available from:

CGA, Inc.
1235 Jefferson Davis Highway
Arlington, VA 22202
USA

- C. Check the exterior of cylinders for deformation, cuts in the fiber over-wrap, contamination or other damage.
- D. Make sure that identification plates and warning labels are legible and not damaged.
- E. Check cylinder neck for cracks, distortion and damage or contamination of threads.

NOTE: Make sure that the sealing surface of the regulator to the cylinder does not have nicks, cuts or distortion. The cylinder will leak between the regulator and the cylinder if the surface is not flat or has nicks and cuts.

- F. Using an inspection light, check the inside of the cylinder for contamination and/or surface irregularities.
- G. Make sure that the inside of the cylinder does not have an odor.

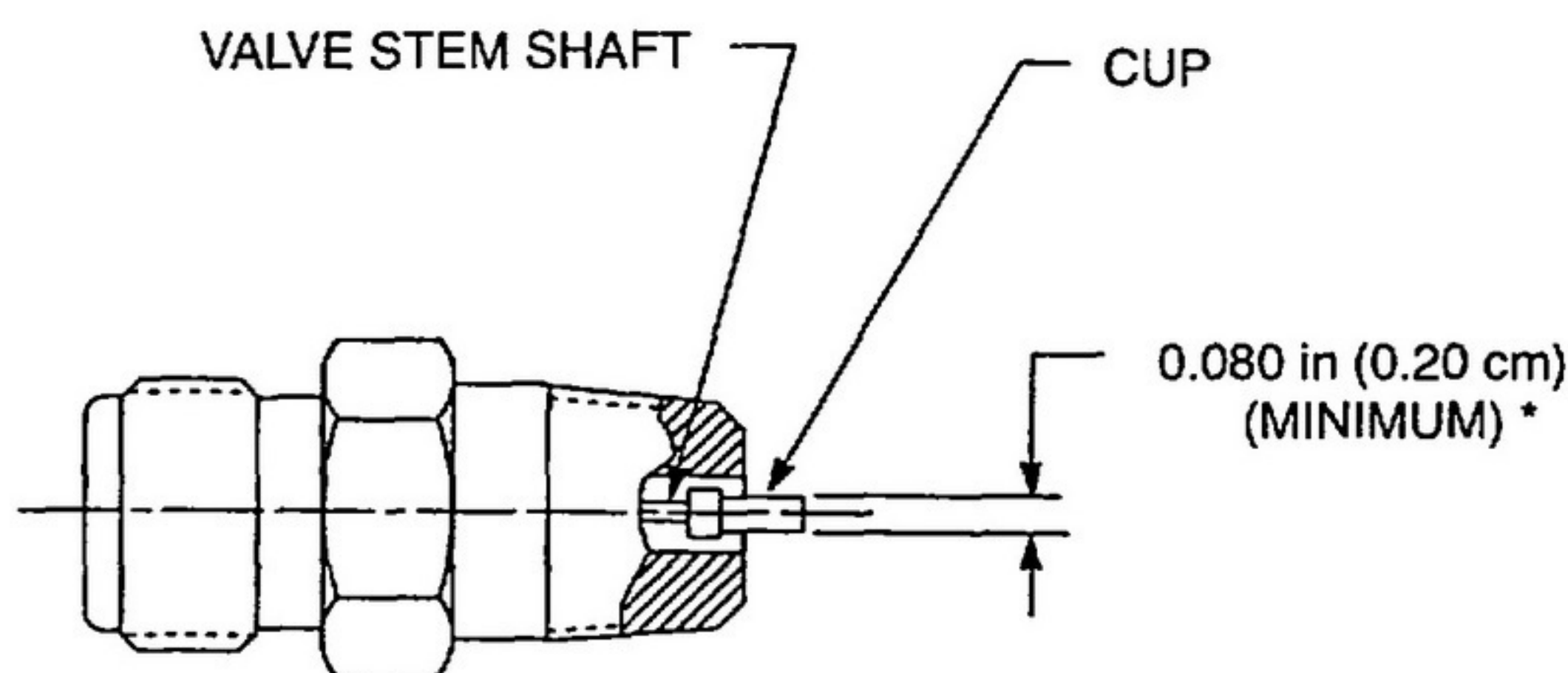
3. Regulator Components

Regulator components must have a check as shown:

- A. Check the surfaces and threaded areas for signs of damage, contamination, galling, burrs, corrosion, and too much wear.

CAUTION: EXCESSIVE WEAR OR DETERIORATION OF A PART MAY CAUSE FAILURE OF THE UNIT.

- B. Check preformed packing surfaces for scratches or other damage that will make the regulator assembly (20, 20A IPL Fig.1) not operate correctly or operate out of the limits of operation.
- C. Make sure that the tube (245, IPL Fig. 2) is correctly installed in the body (265/-265A) and not loose.
- D. Check charging valve assembly (85) for the correct dimensions of valve stem shaft. The charging valve assembly has a cup that is swaged on the end of the valve stem shaft. This cup must be on the charging valve assembly for correct operation. Make sure that the cup is there by measuring the small diameter that extends past the lower face of the charging valve body (refer to Fig. 501). If the diameter of the shaft that extends past the body is less than 0.080 in. (0.20 cm), the charging valve assembly must be replaced.



(*) DIMENSION WITHOUT CUP WILL BE APPROXIMATELY 0.045 IN. (0.114 CM.)

Charging Valve Assembly
Figure 501

REPAIR

1. General

This section gives the repair procedures that shall be performed with respect to the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies. Prior to repair, components shall have been evaluated in accordance with the CHECK section of this document.

2. Repair

Repair shall be limited to only those activities below:

- A. Cleaning.
- B. Burr removal.
- C. Thread chasing.
- D. Replacement of cracked, bent, broken, scored, or otherwise defective components.
- E. Replacement of any gasket, nonmetallic seal, packing, o-ring, diaphragm or filter, when removed during disassembly.

ASSEMBLY

1. General

This section describes the equipment and procedures necessary for assembly of the 9700-G2A and the 9700-H2A Series Portable Cylinder Assembly.

To simplify assembly of the Portable Cylinder Assembly, each major functional group of components contained in the Portable Cylinder Assembly has a separate paragraph dedicated to the assembly and/or installation of that functional group. The following list has the Functional Group shown with its associated paragraph.

<u>Paragraph</u>	<u>Functional Group</u>
5	ON/OFF Valve Kit Assembly
6	Charging Valve Assembly
7	Safety Outlet Assembly
8	Relief Valve Assembly
9	First Stage Regulator Assembly
10	Outlet/Outlet Plug Assembly
11	Final Assembly

2. Special Tools and Equipment

A list of special tools and/or equipment required for assembly of the 9700-G2A and the 9700-H2A Series Portable Cylinder Assemblies is shown in Table 701. An equivalent tool may be substituted for the listed item.

Table 701
Special Tools and/or Equipment

ITEM No.	PART NUMBER	PART NAME	APPLICATION
1	5522-S52-1	Insertion Tool	Install filter (Item 75, IPL Fig. 2)
Note: The above tool is manufactured by Scott Aviation, Lancaster, NY (V53655).			

3. Assembly Materials

A list of consumable materials, required for assembly of the Portable Cylinder Assembly, is shown in Table 702. Equivalent materials may be substituted for listed items, except for oxygen lubricant.

Table 702
Consumable Assembly Materials

MATERIAL	PART NUMBER	MANUFACTURER
Etching Ink (red)	P/N S-1141 (SPN 50792-01)	Marking Device Mfg. Co. Philadelphia, PA (V26040)
Etching Ink (green)	P/N AX GREEN (SPN 50791-01)	Speciality Ink Co. Inc. Deer Park, NY (V18029)
Oxygen Lubricant	Krytox 240 AC (SPN 50527-00)	E.I. DuPont DeNemours & Co. Inc. Wilmington, DE (V18873)
Thread Sealing Tape	Permacel No. 412 (SPN 50011-00)	Johnson and Johnson Inc. Permacel Division New Brunswick, NJ (V99742)
Lockwire	P/N MS20995C20 (SPN 13603-00)	Commercially Available

4. Pre-Assembly Requirements

WARNING: FAILURE TO USE TOOLS THAT ARE FREE FROM DUST, LINT, FINE METAL FILINGS, OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTABLE MATERIALS ON PARTS THAT ARE EXPOSED TO PRESSURIZED OXYGEN MAY RESULT IN FIRE, EXPLOSION OR PERSONAL INJURY.

- A. All components that are to be used in assembly of the Portable Cylinder Assembly shall have been cleaned and checked in accordance with the preceding sections of this document.
- B. Unless otherwise noted, all packings, gaskets, diaphragms, seals and o-rings shall be lubricated with a thin film of Krytox 240 AC, Oxygen Lubricant, prior to installation.

5. ON/OFF Valve Kit Assembly

Refer to ILLUSTRATED PARTS LIST (IPL) Fig. 2 and install ON/OFF valve kit (5) in body (265/-265A) as follows:

- A. Insert filter (75) in body (265/-265A) using insertion tool, part number 5522-S52-1. Observe that filter is not wrinkled or twisted.
- B. Install preformed packing (65) in the recessed groove at the end of bushing (70) that has external threads.

5. ON/OFF Valve Kit Assembly (Continued)

- C. Install bushing (70) into body (265/-265A). Torque bushing to **200 in-lbs (22.6 N·m)**. Observe that filter (75) is not wrinkled or twisted.
- D. Apply oxygen lubricant to threaded portion of valve head assembly (60). Tighten valve head assembly clockwise into bushing (70) then turn it 1/2 turn counterclockwise.
- E. Install preformed packing (45) over threads of packing nut (40) until packing contacts underside of hex surface.
- F. Apply oxygen lubricant to shaft section of valve stem (50). Slide teflon seat (55) onto valve stem.

CAUTION: MAKE SURE THAT VALVE STEM (50) IS INSIDE SLOT OF VALVE HEAD ASSEMBLY (60) DURING TORQUE PROCEDURE OF PACKING NUT (40).

- G. Insert shaft of valve stem (50) through hole from underside in packing nut (40) and install and tighten the group of components (40 thru 60) into bushing (70), hand tight only. Rotate the valve stem counterclockwise one complete turn and torque the packing nut, that is in the bushing, to **150 in-lbs (17.0 N·m)**.
- H. Install two flat washers (35) and one spring washer (30), with concave facing outward, on exposed shaft of valve stem (50).
- J. Position handle (15) on shaft of valve stem (50) and secure handle to valve stem with external lock washer (25) and nut (20).

6. Charging Valve Assembly

Refer to IPL Fig. 2 and install charging valve assembly (85) in body (265/-265A) as follows:

- A. Insert one filter (110) and two filters (105) in body (265/-265A).
- B. Wrap 1-1/2 turns of thread sealing tape to charging valve assembly (85) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape.

NOTE: Tape shall be applied in accordance with MIL-T-27730.

- C. Install charging valve assembly (85) into body (265/-265A). Torque charging valve assembly to **175 in-lbs (19.8 N·m) minimum, 200 in-lbs (22.6 N·m) maximum**.

7. Safety Outlet Assembly

Refer to IPL Fig. 2, assemble safety outlet assembly (-115) and install into body (265/-265A) as follows:

- A. With the identification number on the face of safety disc (125) facing the assembler, install safety disc into cap (120).
- B. Apply oxygen lubricant to gasket (130) and press gasket into cap (120).
- C. Install cap (120) with installed safety disc on safety plug (135). Torque cap onto safety plug to **350 in-lbs (39.6 N·m) maximum**. Install lockwire (refer to MS33540) for lockwire procedure) from cap to safety plug.
- D. Install washer (140) and safety outlet assembly (-115) into body (265/-265A). Torque safety outlet assembly to **150 in-lbs (17.0 N·m)**.

8. Relief Valve Assembly

Refer to IPL Fig. 2 and install relief valve assembly (145) in body (265/-265A) as follows:

- A. Wrap 1-1/2 turns of thread sealing tape to relief valve assembly (145) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape.

NOTE: Tape shall be applied in accordance with MIL-T-27730.

- B. Install relief valve assembly (145) into body (265/-265A). Torque relief valve assembly to **75 in·lbs (8.5 N·m) minimum, 150 in·lbs (17.0 N·m) maximum.**

9. First Stage Regulator Assembly

Refer to IPL Fig. 2 and install first stage regulator components (180 thru 240) in body (265/-265A) as follows:

- A. Install spring (240) into the small diameter port at bottom of the main cavity in body (265/-265A).
- B. Orient the small pilot diameter of thrust pin guide (235) toward body (265/-265A) and insert the thrust pin guide into the small diameter first stage port at the bottom of the main cavity in body. When correctly installed, the small diameter of the thrust pin guide shall be placed inside the diameter of spring (240).
- C. Install the plain end of thrust pin (230) into the small diameter end of seat assembly (225) and the threaded end of seat holder (220).
- D. With the threaded end of seat holder (220) facing body (265/-265A), install the assembled components (220 thru 240) into the threaded port in the main cavity of the body. Torque the seat holder to **50 in·lbs (5.7 N·m).**
- E. Invert spring case (185) with cavity facing upward and place spring guide (190) into spring case cavity with the small diameter of the spring guide facing upward.
- F. Install adjusting spring (195) in cavity of spring case (185). The inside diameter of the adjusting spring shall be placed in the small diameter of spring guide (190).
- G. Orient diaphragm plate (200) with the four curved corners facing downward toward the inverted spring case (185). Place the diaphragm plate on adjusting spring (195).
- H. Install slip rings (205) in threaded cavity of spring case (185). Place diaphragm (210) on slip rings.
- J. Orient thrust plate (215) with the concave surface facing upward and place the thrust plate on the center of diaphragm (210).
- K. Invert body (265/-265A) with the main cavity facing downward and tube (245) facing upward, and install spring case (185) and the assembled components (220 thru 240) hand tight, on threads of body with the spring case still in the inverted position. Torque spring case to **200 in·lbs (22.6 N·m).**
- L. Install setscrew (180) in top of spring case (185). Adjust setscrew until it is the same height as the top of the spring case.

10. Outlet/Outlet Plug Assemblies

The outlet assemblies (70 thru -110, 130, IPL Fig. 1) that connect to the regulator have minimal procurable parts for repair/replacement. For replacement of the parts that are not available, replacement with a fixed flow outlet assembly is required. Refer to ILLUSTRATED PARTS LIST (IPL), Outlet Assembly (Part Number Configuration Matrix), Fig. 1002 for selection of a part number for a fixed flow outlet assembly.

A. Outlets Assembly

Assemble the following outlet assemblies as required.

(1) DPB153

There are no replacement parts for this assembly.

(2) 802856-01 (refer to IPL Fig 6 for item numbers)

- (a) Apply oxygen lubricant to new preformed packing (60) and attach to disconnect fitting (20) at the end of threads and in groove.
- (b) Apply oxygen lubricant to new preformed packing (120) and attach to interior of disconnect body (100) in groove.
- (c) Apply oxygen lubricant to new preformed packing (110) and attach to exterior of disconnect body (100) in groove.
- (d) Apply oxygen lubricant to quad ring (90) and install quad ring, disconnect poppet (80) and poppet spring (70) into disconnect body (100).
- (e) Install and tighten disconnect body (100) clockwise onto disconnect fitting (20).
- (f) Attach dust cover (40) to disconnect fitting (20).

(3) 5507 Series Outlet (refer to IPL Fig. 5 for item numbers)

NOTE: Replacement parts for: screw (10), screen (20), cord (30), outlet assembly (-40, -40A), body (110, 110A) and/or series orifice (150) are not available. For replacement of any of these items, a replacement outlet assembly (-1, -1B thru -1N) is required. Refer to IPL Fig. 1002 for selection of a replacement part number for a fixed flow outlet assembly.

- (a) Apply oxygen lubricant to new gasket (80, IPL Fig. 5) and install flow stop spring (100), poppet (90), gasket (80), washer (70) and flattened washer (60) into body (110, 110A).
- (b) Install and tighten adapter assembly (50) clockwise into body (110, 110A).
- (c) Place dust cover (130) and torsion spring (120) over screw (140). Install and tighten screw clockwise into threaded adapter assembly (50) with dust cover and torsion spring attached.

10. Outlet/Outlet Plug Assemblies (Continued)

A. Outlets Assembly (Continued)

(4) 5041 Series Outlet (refer to IPL Fig. 4 for item numbers)

NOTE: Replacement parts for: screw (20), screen (30), cord (40), outlet assembly (-50), body (60, 190), outlet subassembly (-160), and/or series orifice (280) are not available. For replacement of any of these items, a replacement outlet assembly (-1, -1B thru -1N) is required. Refer to IPL Fig. 1002 for selection of a replacement part number for a fixed flow outlet assembly.

- (a) Apply oxygen lubricant to new valve seat (90, 220, IPL Fig. 4) and install valve seat, valve (80, 210) and spring (70, 200) into case (100, 230).
- (b) Install and tighten body (60, 190) clockwise into case (100, 230).
- (c) Tighten setscrew (140, 250) clockwise into case (100, 230).
- (d) Set pins (120, 270) into grooves on the exterior of case (100, 230) and attach springs (110, 260) onto pins.
- (e) Place cap (130, 170), washer (130A, 170A) and dust cover (10, 180) over case (100, 230). Install and tighten nut (150, 240) clockwise onto case.

(5) 5009 Series Outlet (refer to IPL Fig. 3 for item numbers)

NOTE: Replacement parts for: orifice adj. screen (20), screen (30), cord (40), outlet assembly (-50), stud (60), flow port (100), filter (110), retaining ring (120), gasket (130), outlet subassembly (-150), stud (200), and/or series orifice (210) are not available. For replacement of any of these items, a replacement outlet assembly (-1, -1B thru -1N) is required. Refer to IPL Fig. 1002 for selection of a replacement part number for a fixed flow outlet assembly.

- (a) Apply oxygen lubricant to new gasket (90, 170, IPL Fig. 3) and install gasket, valve (80, 180) and spring (70, 190) into receptacle (140, 160).
- (b) Install and tighten receptacle (140, 160) onto stud (60, 200).

10. Outlet/Outlet Plug Assemblies (Continued)

B. Assembly of Outlet/Outlet Plug to Regulator

When outlet assemblies (70 thru -110A, 130, IPL Fig. 1) are put into a regulator assembly (20/20A), there are rules about the position where the outlets attach into the regulator. For a description of the rules, refer to DESCRIPTION AND OPERATION, Outlet Orientation, in this manual. The following gives the assembly details for the position of the outlet:

If applicable, put the metered (fixed flow) outlet (70 thru -90G) with the highest flow rate counterclockwise of the gauge (270, IPL Fig. 2).

If applicable, put the unmetered (full flow) outlet (-100 thru -110A, -130) clockwise of the ON/OFF valve kit assembly (5).

Assemble the outlets/outlet plugs (70 thru -130, IPL Fig. 1) to the regulator (20, 20A) as follows:

- (1) Wrap 1-1/2 turns of thread sealing tape to the outlet/outlet plugs (70 thru -130) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape.

NOTE: Tape shall be applied in accordance with MIL-T-27730.

- (2) Tighten outlets/outlet plugs (70 thru 130, IPL Fig. 1) so that outlets do not leak around fittings. Then tighten outlet assemblies (70 thru -110A, 130, IPL Fig. 1) so that the flow stamp ("HI" or "LO") is visible and a smooth side (without a metal stamp) of outlet is in the UP position.

When outlet assemblies (70 thru -110A, 130, IPL Fig. 1) are put on a regulator assembly (20/20A, IPL Fig. 1) and the flow rates are different for the outlets, a mark must be put on the outlet assemblies with a rubber stamp and etching ink. Refer to DESCRIPTION AND OPERATION, Outlet Markings, in this manual, for rules about marks on the outlet assemblies. If the outlet assemblies do not have the "HI" or "LO" marks as required, perform the following:

Put a "HI" mark on the outlet that has the highest flow rate (including full flow outlets). The "HI" mark must be put on the outlet with Red Etching Ink (refer to Table 702).

Put a "LO" mark on the outlet that has the lowest flow rate. The "LO" mark must be put on the outlet with Green Etching Ink (refer to Table 702).

11. Final Assembly

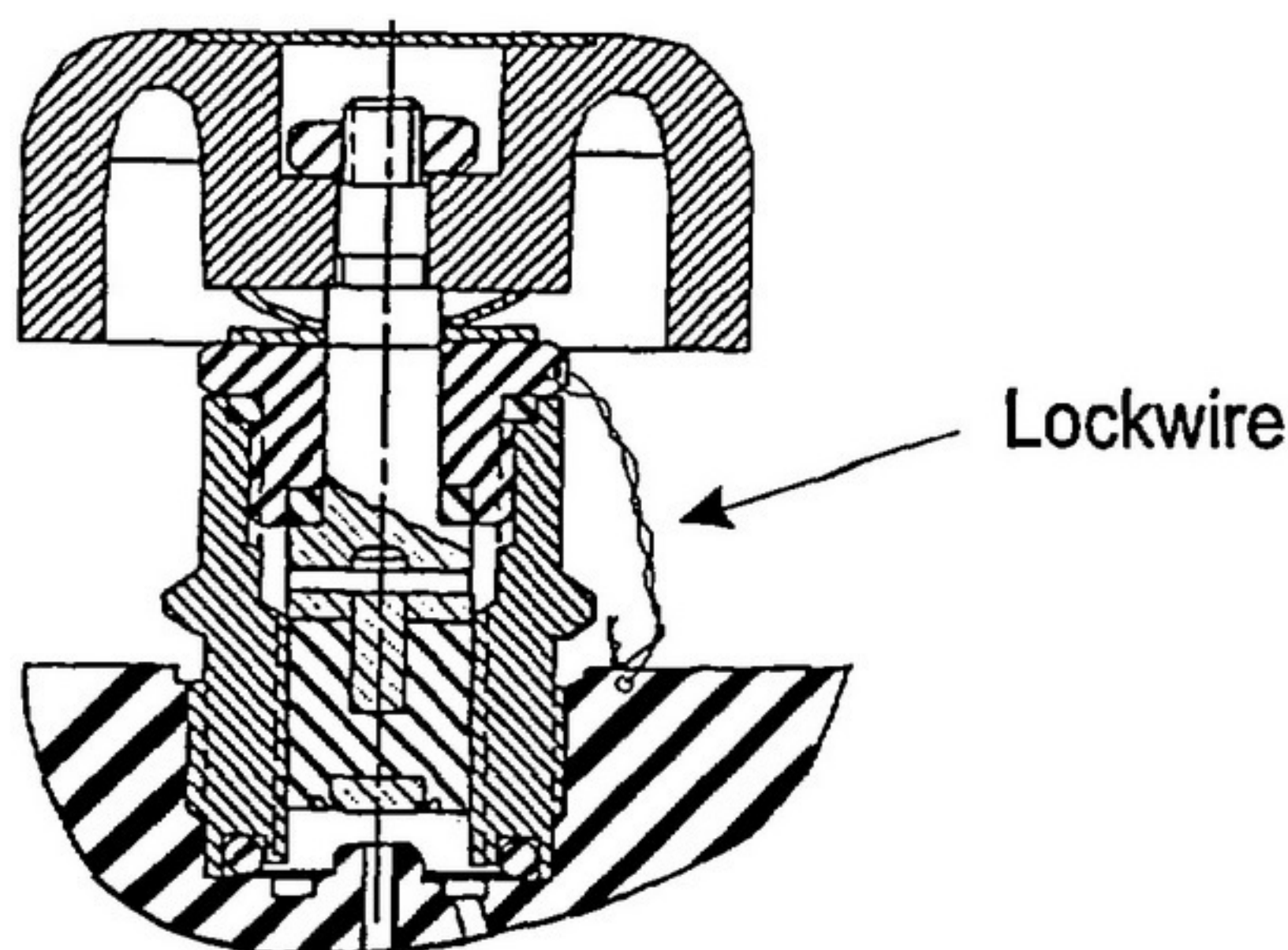
Refer to IPL Fig. 2 and install the remaining components of the PCA as follows:

- A. Re-torque safety outlet assembly (-115) to **150 in·lbs (17.0 N·m)**. The second application of torque will make sure that the outlet assembly is in the body (265/-265A) with the correct torque value.
- B. Attach a new decal (60, 140, 150, IPL Fig.1) or ID plate (50) if it was removed or is missing.
- C. Install Filler Cap Assembly (80, IPL Fig. 2) onto charging valve assembly (85).
- D. Install ID plate (170) with 2 pan head screws (175) on spring case (185).
- E. Install ID plate (10) on handle (15).
- F. Install pressure gauge (270) as follows:

- (1) Wrap 1-1/2 turns of thread sealing tape to threads of pressure gauge (270) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread.

NOTE: Tape shall be applied in accordance with MIL-T-27730.

- (2) Install pressure gauge (270) into body (265/-265A). Using an open-end wrench, engage the wrench flats below the gauge face and on the body and torque pressure gauge to **40 in·lbs (4.5 N·m) minimum, 150 in·lbs (17.0 N·m) maximum** in a position that the gauge is easily readable.
 - (3) Remove excess tape from the threads of the pressure gauge (270).
- G. Install lockwire (refer to MS33540 for lockwire procedure) from bushing (70) to regulator body (265/-265A). Refer to Figure 701.



Bushing Lockwire
Figure 701

H. Install regulator assembly as follows:

- (1) Install the metal boss seal (250) over tube (245) and threads of regulator body (265/-265A).
- (2) Refer to Composite Cylinders in CHECK, in this manual, and make sure that the cylinder is acceptable for use.

NOTE: Make sure that the sealing surface of the regulator to the cylinder does not have nicks, cuts or distortion. The cylinder will leak between the regulator and the cylinder if the surface is not flat or has nicks and cuts.

- (3) Install regulator assembly (20/20A, IPL Fig.1) on composite cylinder (10). Torque regulator assembly to **600 in-lbs (67.8 N·m)**.

NOTE: Do not use thread sealing tape over the threads of the regulator assembly.

J. Refer to IPL Fig. 1 and attach the clamp and harness as follows:

- (1) Slide the clamp (40) over the composite cylinder (10) approximately three inches from the bottom of the composite cylinder.
- (2) Slide the end of the harness (30) with the triple fold section between the clamp (40) and the composite cylinder (10).

NOTE: Make sure that the triple fold section of the harness is past the clamp.

- (3) Tighten the clamp (40) around the composite cylinder (10) and single thickness of the harness (30).
- (4) Slide the loop end of harness (30) over regulator assembly (20/20A).

K. Refer to TESTING & FAULT ISOLATION, in this manual, and perform the complete testing procedure. Unit must pass the complete testing procedure before the unit may be available for use.

12. Storage

- A. Place the reassembled unit in a clean, 0.006 in. (0.015 cm) thick polyethylene bag and seal it for protection of the unit from dust and dirt.
- B. Store in a cool area, away from sources of high heat and humidity.

FITS AND CLEARANCES

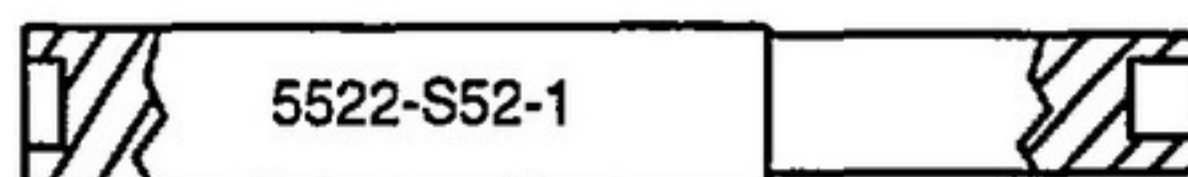
Torque values that are critical to the assembly and operation of the 9700-G2A and 9700-H2A Portable Cylinder Assemblies are shown in Table 801.

**Table 801
Torque Values**

Item No. (IPL Fig. 2)	Nomenclature	Torque Values	
		U.S. (in•lbs)	Metric (N•m)
-1/-1A	Regulator Assembly	600	67.8
40	Packing Nut	150	17.0
70	Bushing	200	22.6
85	Charging Valve Assembly	175 - 200	19.8 - 22.6
-115	Safety Outlet Assembly	150	17.0
120	Cap	350 (Max.)	39.6 (Max.)
145	Relief Valve Assembly	75 - 150	8.5 - 17.0
185	Spring Case	200	22.6
220	Seat Holder	50	5.7
270	Gauge	40 - 150	4.5 - 17.0

SPECIAL TOOLS, FIXTURES AND TEST EQUIPMENT

Special tools required for assembly/disassembly of the Portable Cylinder Assembly are shown in Figure 901. Special test equipment required for testing of the FCU are presented in Table 901. All other tools and/or equipment used in this manual are standard oxygen shop tools and/or equipment. An equivalent tool may be substituted for the listed item.



(Filter) Insertion Tool (Item No. 1), P/N 5522-S52-1, Scott Aviation, Lancaster, NY (V53655)

Special Tools
Figure 901

Table 901
Special Test Equipment

NOMENCLATURE	PART NO.	MANUFACTURER (Vendor Code)
Flowmeter (0.58 - 5.8 lpm)	1110CC61DBGAA	Brooks Instrument La Habra, CA 90631 (V0S7T0)
Pressure Gauge (0-200 psi (1.38 MPa)) (0-2000 psi (13.8 MPa))	1403 Series	Ametek (U.S. Gauge) Sellersville, PA 18960 (V61349)
Refill Coupling	5020-01	Scott Aviation Lancaster, NY (V53655)
Pigtail Assembly	5082-00	
Mating Connector (5009 Series Outlet)	5065-10	
Mating Connector(5041 Series Outlet)	29559-00	
Mating Connector (5507 Series Outlet)	14807-00	
Mating Connector (DPB153 Outlet)	36857-01	
Mating Connector (802856-01 Outlet)	802857-03	
Regulator, Oxygen (0-2500 psi (0-17.2 MPa))	26-1622-24	Tescom Corp. Elk River, MN (V5H642)
Regulator, Test (0-2500 psi (0-17.2 MPa))	44-1122-24	
NOTE: Equivalent test equipment may be substituted.		

ILLUSTRATED PARTS LIST

1. Introduction

This Illustrated Parts List section shows the illustrations and the authorized replacement parts for the 9700-G2A and 9700-H2A Series Portable Cylinder Assemblies (PCA).

A. How To Use This Section:

- (1) If you do not know the part number you need:
 - (a) Find the part in the applicable figure.
 - (b) Note the ITEM number used for the part.
 - (c) Use the ITEM number to find the authorized replacement part number.
- (2) If you know the part number, refer to the figure to be sure that the part illustration is the same as the part that you need.

B. Numerical Index

The Numerical index is used to locate parts in the unit when only the part number is known. The Numerical Index provides a cross-reference of numbers that include: Airline Stock number, Figure #, Item #, and the number of parts required.

The character-sort-order for part numbers is: dashes first, letters A thru Z second, and then numbers 0 thru 9.

C. Description of the Illustrated Parts List Entries

The section describes the information found in the Illustrated Parts List (IPL).

(1) FIG. ITEM

(a) Items not Illustrated

Items that are not shown in the figure have a dash in front of the item number.

(b) Alpha Variant Item Numbers

Alpha variants that are A-Z (except I and O) added after the item number show configuration differences in items, optional parts, parts that have had product improvement, and/or added items.

(2) PART NUMBER

The numbers in this column are the part numbers given by Scott to index all the items in the assembly, or are the part number of the original manufacturer. If a part number that Scott gives an item is different than the supplier part number, the supplier number is shown in the PART NUMBER column and the Scott number (SPN XXXXX) is in the NOMENCLATURE column.

C. Description of the Illustrated Parts List Entries (Continued)

(2) PART NUMBER (Continued)

Some part numbers in this column are a SERIES part number. This SERIES part number provides a method for formulating a complete part number that may not be listed in this manual. Refer to Figures 1001 and 1002 (Configuration Matrix) for an illustration that shows how to formulate a part number for a PCA or outlet assembly. This manual is designed so that the person who reads it does not need to read through every possible configuration (of which there would be many and possibly not in alpha-numerical order) to find the single configuration that they may have or need. To determine the complete part number for the SERIES part number, some of the information must be provided by the user (refer to the Configuration Matrix). The following table lists the SERIES part numbers and the figure number of the Configuration Matrices.

<u>Part Number</u>	<u>Figure No.</u>
9700-G2A SERIES	1001
9700-H2A SERIES	1001
5009 SERIES	1002
5041 SERIES	1002
5507 SERIES	1002

(3) AIRLINE STOCK NUMBER

This column has space available for a number, up to eleven characters in length, given by the airline.

(4) NOMENCLATURE

(a) Abbreviations

The abbreviations in this column are shown in the List of Abbreviations in this section.

The definition of common abbreviations that are found in this column are:

NP	This is a part that is not available and NP is shown in the two last spaces of the Nomenclature column.
OPT	The part is equivalent to the primary part and can be interchanged with the other parts for the same effectivity code.
REPLS	The part in the Part Number column replaces and can be changed with the item that is replaced.
SUPSDS	The part in the Part Number column replaces and cannot be changed with the old item that is superseded.

9700-□ 2A-□ □ □

BASIC PART NUMBER

CYLINDER ASSY WITH
REGULATOR, SERIES

(G=21507-06 Cyl. w/ 803199-04 Reg.
H=21507-06 Cyl. w/ 803199-05 Reg.)

CYLINDER FINISH

(2=Green #14187 per FED STD-595)

HARNESS ASSEMBLY

(A=801660-00)

OUTLET FLOW RATE SETTINGS

Config. Letter	B	E	F	Y
Flow Rate (lpm)	2.0	3.0	4.0	Full Flow

NOTE: There may be 1, 2 or 3 Config. Letters in the P/N.

NOTE: Outlet Part Numbers with Config. Letter M, N & S are full flow outlets.

OUTLET ALTITUDE SETTINGS

Configuration Number	0	10	20	23	25
Altitude (ft/meters)	0/ 0	10,000/ 3,048	20,000/ 6,096	23,000/ 7,010	25,000/ 7,620

NOTE: The 0 Altitude is for the full flow outlets (Outlet Part Numbers W/ Config. Letters M, N & S).

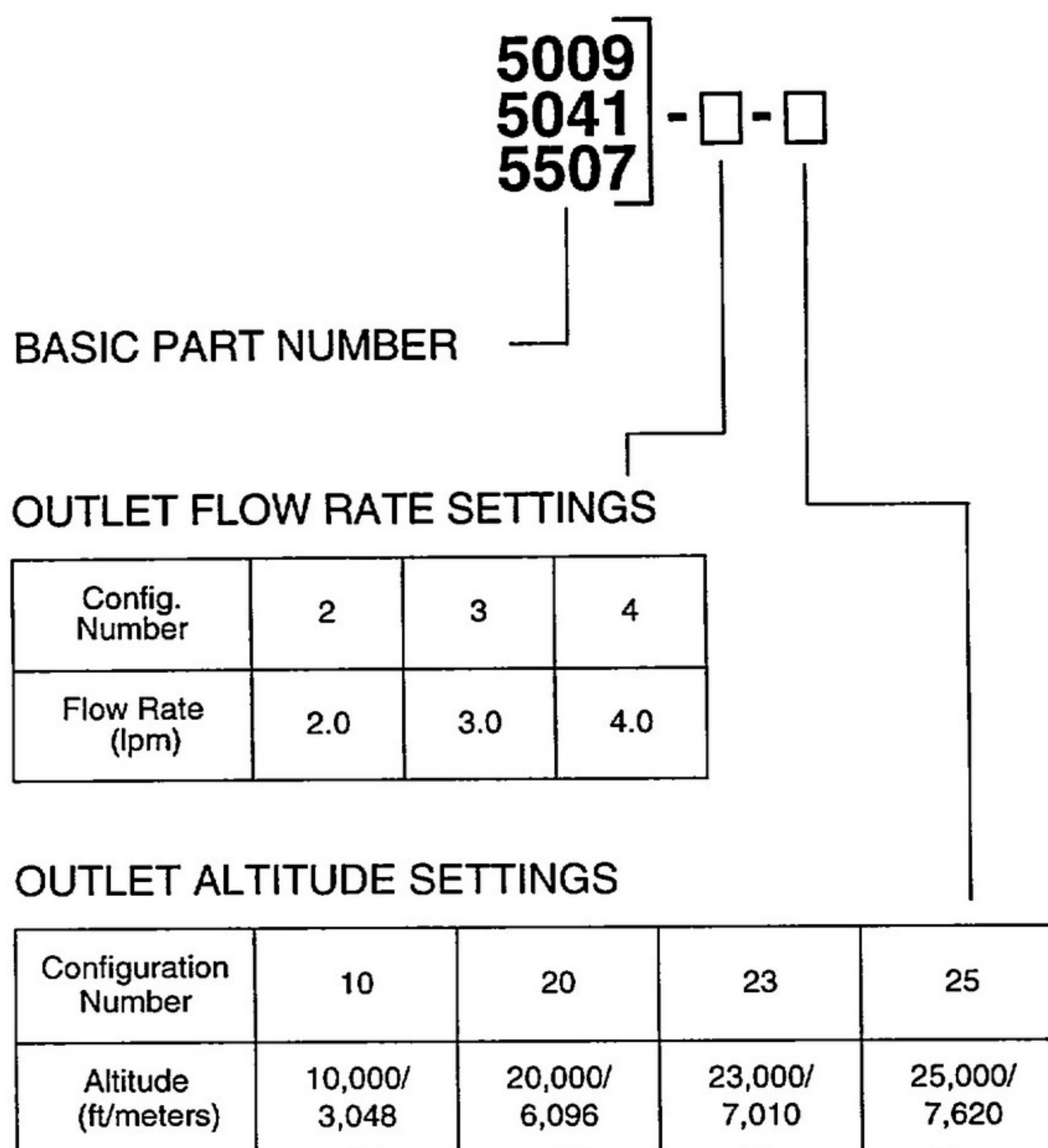
OUTLET PART NUMBERS

Config. Letter	A	B	D	K	M	N	S
Part Type	Metered Outlet	Metered Outlet	Metered Outlet	Plug	Full Flow Outlet	Full Flow Outlet	Full Flow Outlet
Part Number	5009 Series	5041 Series	5507 Series	MS27769S2 (6818-01)	802856-01	DPB153	10008298
IPL Fig. #	3	4	5	NO BKDN	6	NO BKDN	NO BKDN

NOTE: To order replacement Outlets, refer to the Part Number Config. Matrix, Figure 1002.

NOTE: There may be 1 or 2 Config. Letters in the P/N. Refer to DESCRIPTION AND OPERATION, Part Number Rules, in this manual for approved styles and number of outlets.

Portable Cylinder Assembly
(Part Number Configuration Matrix)
Figure 1001



ORDERING INFORMATION:

1. When placing an order for an outlet, use the Basic Part Number with the Outlet Flow Rate Settings and Outlet Altitude Settings Configuration Numbers found above.
2. The 5009-00 part number is replaced by the 5009-- part number. The 5041-00 part number is replaced by the 5041-- part number. The 5507-00 part number is replaced by the 5507-- part number. Use the matrices above to determine the complete part number that replaces the specific outlet that you may have.

For Example, 5041-00 that is set for 2 lpm at 20,000 ft altitude is replaced by 5041-2-20.

Outlet Assembly
(Part Number Configuration Matrix)
Figure 1002

C. Description of the Illustrated Parts List Entries (Continued)**(4) NOMENCLATURE (Continued)**

This column has the description of the part and may contain the following:

(b) Level of Indenture

This information shows the relationship of one part to another. An example is shown:

123 (Assembly Number)

- Subassembly Top Number
- Attaching Parts for the Subassembly Top Number or Assembly Item
- ***

- Assembly Item

- Sub-Subassembly Top Number
- Attaching Parts for the Sub-Subassembly Top # or Subassembly Item
- ***

- Subassembly Item

NOTE: The three asterisks are used to separate the attaching parts of one item from another item.

(5) EFF. CODE

When the IPL applies to more than one top assembly, each top assembly is identified with an alpha code (A, B, C, etc.). If a part number subassembly or item is identified with an alpha code, that part can only be used with the top assembly that has the same EFF. CODE.

Any item or subassembly that does not have an EFF. CODE may be used on any top assembly.

(6) UNITS PER ASSEMBLY

This column shows the number of parts that are used in the assembly.

D. Vendor Codes

The following is a list of the vendors that supply items in this section:

<u>CODE</u>	<u>NAME AND ADDRESS</u>
V02697	Parker Seal Co., Cleveland, OH
V50394	Standard Press Steel Co., Jenkentown, PA
V76599	Murray Corp., Cockyville, MD

E. List of Abbreviations:

The following is a list of abbreviations found in this section:

<u>ABBREV.</u>	<u>DEFINITION OF TERM</u>
ADJ	Adjustment
AR	As Required
ASSY	Assembly
BKDN	Breakdown
CONFIG	Configuration
CYL	Cylinder
EFF	Effectivity
FIG	Figure
ft	feet
HD	Head
ID	Identification, Internal Diameter
INST	Instructions
IPL	Illustrated Parts List
lpm	liters per minute
NHA	Next Higher Assembly
NO.	Number
NP	Not Procurable (also Not Provisioned)
OPT	Optional
PCA	Portable Cylinder Assembly
P/N	Part Number
REG	Regulator
REPLD	Replaced
REPLS	Replaces
REQD	Required
RF	Reference
SPN	Scott Part Number
SUPSD	Superseded
SUPSDS	Supersedes
TTL	Total
W/	With

F. Numerical Index:

The following is a Numerical Index for this section:

PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
AN345C10		2	20	1
DPB153		1	110	AR
		1	-110A	1
HF52SS		1	40	1
MS27769S2		1	-120	AR
		1	-120A	1
MS35207-202		2	175	2
10001493		3	100	1
10001494		3	60	1
10003305		2	245	1
10003742		2	125	1
10005614		6	20	1
10005615		6	100	1
10005616		6	80	1
10005617		6	40	1
10006001		2	-125A	1
10006442		1	150	1
10007887		2	50	1
10008298		1	-130	AR
10008594		5	100	1
10008595		5	130	1
10008596		5	120	1
10008597		5	110	1
10008601		5	70	1
10008602		5	80	1
10008603		5	90	1
10008644		6	10	1
10008660		5	140	1
10008774		5	60	1
10008915		3	200	1
10008934		4	190	1
10008947		5	110A	1
10008980		1	50	1
10009072		1	60	1
10009255		1	140	1
13160-00		1	40	1

PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
18012-00		6	110	1
18341-00		2	260	2
18463-00		2	20	1
19147-00		2	25	1
2-016V747-75		2	45	1
2-113V747-75		2	65	1
21507-06		1	10	1
22427-01		2	10	1
22445-01		2	30	1
23274-05		2	15	1
23393-01		2	70	1
23394-01		2	40	1
24823-00		3	80	1
		3	180	1
24825-00		3	140	1
		3	160	1
26565-00		2	120	1
26567-00		2	135	1
2661-04		2	270	1
27170-05		2	265	1
27170-06		2	-265A	1
27511-01		6	50	1
28705L4C6C		2	180	1
29550-00		4	60	1
29551-00		4	200	1
29552-00		4	80	1
		4	210	1
29553-01		4	90	1
		4	220	1
29554-00		4	100	1
		4	230	1
29555-00		4	110	2
		4	260	2
29556-00		4	120	2
		4	270	2
29557-00		4	150	1
		4	240	1
29558-01		4	180	1

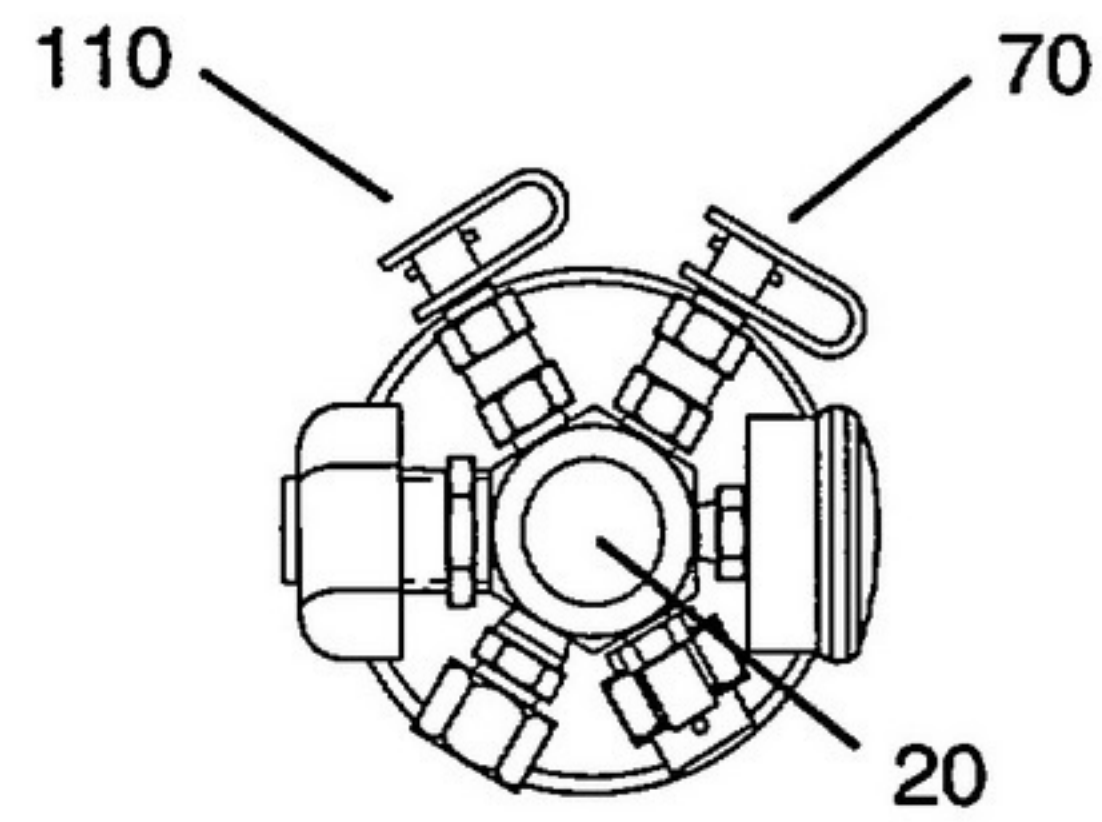
PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
29567-00		4	140	1
		4	250	1
33326-202		2	175	2
36588-04		6	70	1
36636-01		6	90	1
36862-02		6	60	1
36874-01		6	30	2
37008-02		2	180	1
5002-00		2	235	1
5003-00		2	195	1
5005-03		2	185	1
5009-00		1	-70A	AR
		3	-1A	RF
5009-01		3	-50	1
5009-2-10		1	-70B	1
		3	-1B	RF
5009-2-20		1	-70D	1
		3	-1C	RF
5009-2-23		1	-70F	1
		3	-1D	RF
5009-2-25		3	-1E	RF
5009-3-10		3	-1F	RF
5009-3-20		3	-1G	RF
5009-3-23		3	-1H	RF
5009-3-25		3	-1J	RF
5009-4-10		1	-70C	1
		3	-1K	RF
5009-4-20		1	-70E	1
		3	-1L	RF
5009-4-23		1	-70G	1
		3	-1M	RF
5009-4-25		3	-1N	RF
5009SERIES		1	70	AR
		3	-1	RF
5013-00		3	30	1
5013-01		4	30	2
		5	20	2
5014-00		3	20	1
5014-01		4	20	1
		5	10	1

PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
5027-00		2	240	1
5028-00		2	230	1
5030-01		2	220	1
5031-00		2	215	1
5032-01		2	210	1
5033-00		2	205	3
50330-00		3	40	AR
		4	40	AR
		5	30	AR
5034-00		2	200	1
5041-00		1	-80A	AR
		4	-1A	RF
5041-01		4	-50	1
5041-2-10		1	-80B	1
		4	-1B	RF
5041-2-20		1	-80D	1
		4	-1C	RF
5041-2-23		1	-80F	1
		4	-1D	RF
5041-2-25		4	-1E	RF
5041-3-10		4	-1F	RF
5041-3-20		4	-1G	RF
5041-3-23		4	-1H	RF
5041-3-25		4	-1J	RF
5041-4-10		1	-80C	1
		4	-1K	RF
5041-4-20		1	-80E	1
		4	-1L	RF
5041-4-23		1	-80G	1
		4	-1M	RF
5041-4-25		4	-1N	RF
5041SERIES		1	-80	AR
		4	-1	RF
5042-01		4	130	1
		4	170	1
5042-02		4	130A	1
		4	170A	1
5043-14		2	145	1
5056-00		2	170	1
5057-14		2	255	1
5065-02		3	120	1

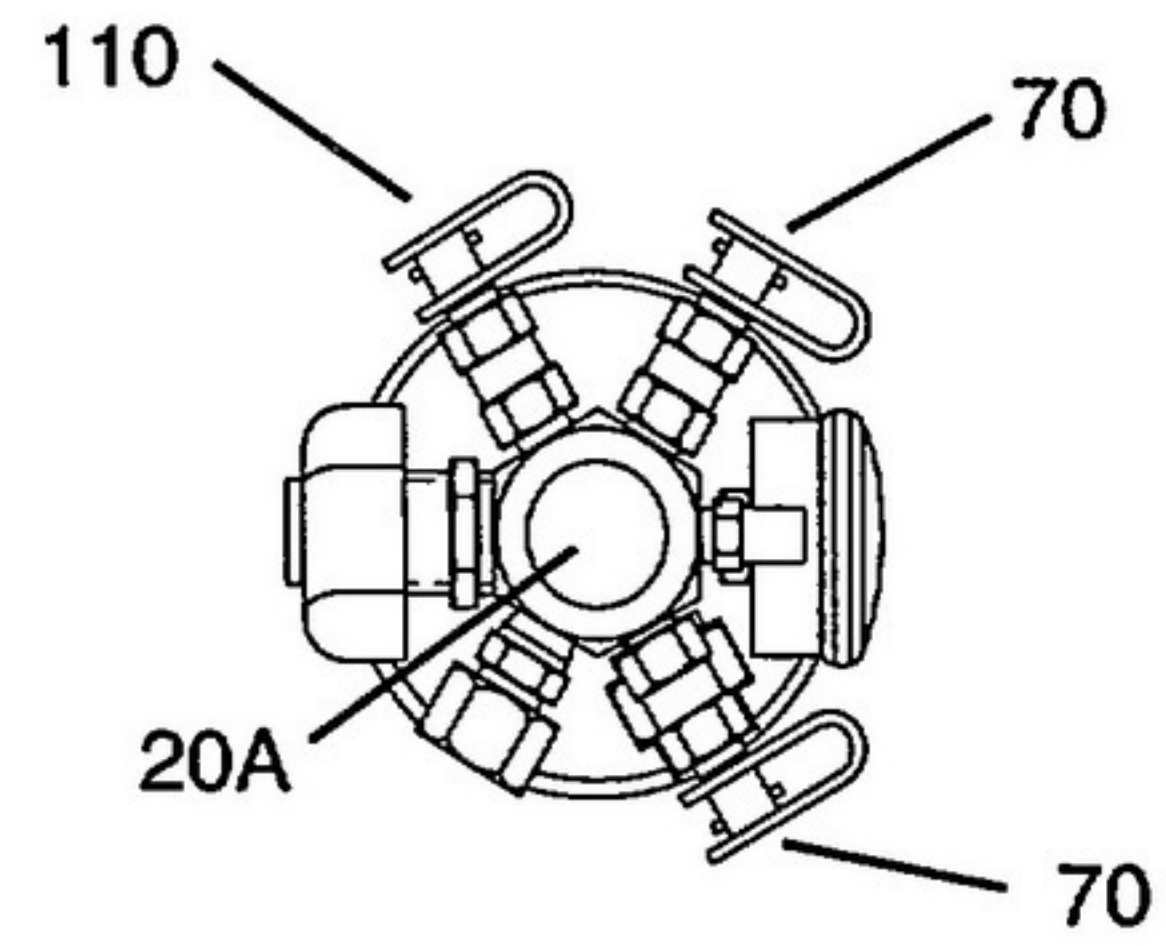
PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
5065-03		3	130	1
5065-04		3	110	1
5065-06		3	70	1
		3	190	1
5065-08		3	90	1
		3	170	1
50775SERIES		3	210	1
		4	280	1
		5	150	1
5093-01		2	85	1
5507-00		1	-90A	AR
		5	-1A	RF
5507-2-10		1	-90B	1
		5	-1B	RF
5507-2-20		1	-90D	1
		5	-1C	RF
5507-2-23		1	-90F	1
		5	-1D	RF
5507-2-25		5	-1E	RF
5507-3-10		5	-1F	RF
5507-3-20		5	-1G	RF
5507-3-23		5	-1H	RF
5507-3-25		5	-1J	RF
5507-4-10		1	-90C	1
		5	-1K	RF
5507-4-20		1	-90E	1
		5	-1L	RF
5507-4-23		1	-90G	1
		5	-1M	RF
5507-4-25		5	-1N	RF
5507SERIES		1	-90	AR
		5	-1	RF
5511-00		2	35	2
5517-00		2	55	1
5520-15		2	5	1
5522-00		2	75	1
5533		5	-40	1
5533-00		5	-40A	1
55620-01		2	45	1
55620-02		2	50	1
55622-00		6	120	1

PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
59447-00		3	10	1
59551-00		4	70	1
59558-01		4	10	1
59776-01		2	250	1
6370-00		2	140	1
6555-00		2	130	1
6818-01		1	-120	AR
		1	-120A	1
801421-01		2	-115	1
801660-00		1	30	1
802856-01		1	-100	AR
		6	-1	RF
802883-01		2	60	1
803129-01		2	225	1
803199-04		1	20	1
		2	-1	RF
803199-05		1	20A	1
		2	-1A	RF
804201-01		5	50	1
804202-01		2	80	1
804329-01		4	-160	1
804376-01		3	-150	1
8384-00		2	110	1
8385-00		2	105	2
8561-02		2	190	1
9700G2ABF10A		1	-1B	RF
9700G2ABF10B		1	-1C	RF
9700G2ABF10D		1	-1D	RF
9700G2ABF20A		1	-1G	RF
9700G2ABF20B		1	-1H	RF
9700G2ABF20D		1	-1J	RF
9700G2ABF23A		1	-1M	RF
9700G2ABF23B		1	-1N	RF
9700G2ABF23D		1	-1P	RF
9700G2AF10AN		1	-1F	RF
9700G2AF10D		1	-1E	RF
9700G2AF20AN		1	-1L	RF
9700G2AF20D		1	-1K	RF

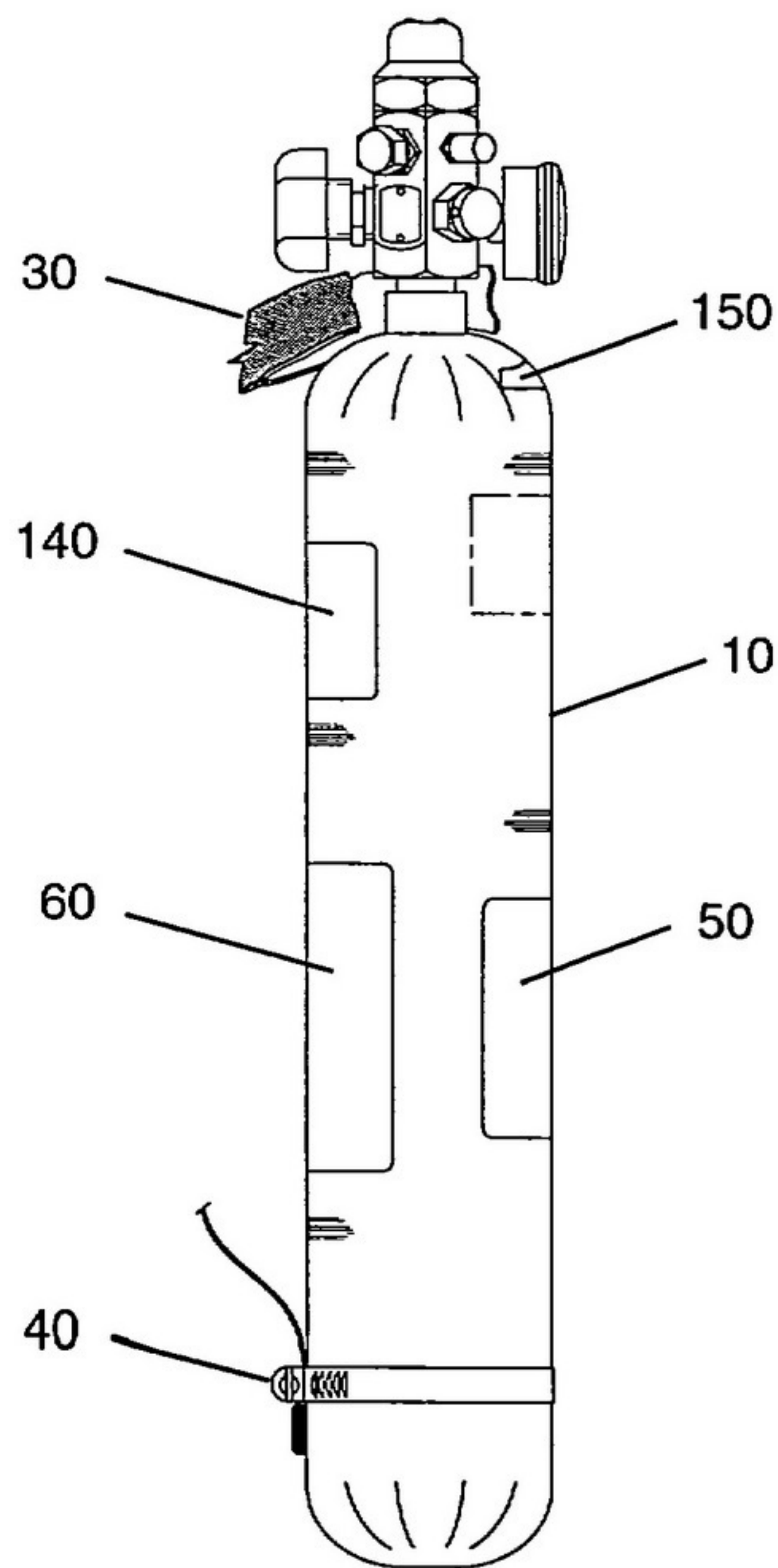
PART NUMBER	AIRLINE STOCK No.	FIGURE	ITEM No.	TTL REQ'D
9700G2AF23AN		1	-1R	RF
9700G2AF23D		1	-1Q	RF
9700G2ASERIES		1	-1	RF
9700H2ABF10BN		1	-1S	RF
9700H2ABF20BN		1	-1T	RF
9700H2ABF23BN		1	-1U	RF
9700H2ASERIES		1	-1A	RF



2 OUTLETS



3 OUTLETS



Portable Cylinder Assembly
Figure 1

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
1 -1	9700G2ASERIES		CYLINDER ASSY, PORTABLE, SERIES (SPN 9700G2A SERIES) *	A	RF
-1A	9700H2ASERIES		CYLINDER ASSY, PORTABLE, SERIES (SPN 9700H2A SERIES) *	B	RF
-1B	9700G2ABF10A		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF10A)	C	RF
-1C	9700G2ABF10B		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF10B)	D	RF
-1D	9700G2ABF10D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF10D)	E	RF
-1E	9700G2AF10D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F10D)	F	RF
-1F	9700G2AF10AN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F10AN)	G	RF
-1G	9700G2ABF20A		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF20A)	H	RF
-1H	9700G2ABF20B		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF20B)	J	RF
-1J	9700G2ABF20D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF20D)	K	RF
-1K	9700G2AF20D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F20D)	L	RF
-1L	9700G2AF20AN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F20AN)	M	RF
-1M	9700G2ABF23A		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF23A)	N	RF
-1N	9700G2ABF23B		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF23B)	P	RF
-1P	9700G2ABF23D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-BF23D)	Q	RF
-1Q	9700G2AF23D		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F23D)	R	RF
-1R	9700G2AF23AN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-G2A-F23AN)	S	RF
-1S	9700H2ABF10BN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-H2A-BF10BN)	T	RF
-1T	9700H2ABF20BN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-H2A-BF20BN)	U	RF
-1U	9700H2ABF23BN		CYLINDER ASSEMBLY, PORTABLE (SPN 9700-H2A-BF23BN)	V	RF
(CONTINUED)					

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
1-					
10	21507-06		• CYLINDER, COMPOSITE		1
20	803199-04		• REGULATOR ASSEMBLY (2 OUTLET) (REFER TO FIG. 2 FOR BKDN)	A, C-S	1
20A	803199-05		• REGULATOR ASSEMBLY (3 OUTLET) (REFER TO FIG. 2 FOR BKDN)	B, T-V	1
30	801660-00		• HARNESS		1
40	HF52SS		• CLAMP (V76599) (SPN 13160-00)		1
50	10008980		• PLATE, ID		1
60	10009072		• DECAL, OPERATORS INST		1
70	5009SERIES		• OUTLET ASSEMBLY, SERIES (SPN 5009 SERIES) (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	† ‡	AR
-70A	5009-00		• OUTLET ASSEMBLY (REFER TO NOTE 1) (REPLD BY ITEMS 70, -70B THRU -70G) (REFER TO FIG. 3 FOR BKDN)	NP ‡	AR
-70B	5009-2-10		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	C	1
-70C	5009-4-10		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	C,G	1
-70D	5009-2-20		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	H	1
-70E	5009-4-20		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	H,M	1
-70F	5009-2-23		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	N	1
-70G	5009-4-23		• OUTLET ASSEMBLY (REPLS ITEM -70A) (REFER TO FIG. 3 FOR BKDN)	N,S	1
-80	5041SERIES		• OUTLET ASSEMBLY, SERIES (SPN 5041 SERIES) (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	† ‡	AR
-80A	5041-00		• OUTLET ASSEMBLY (REFER TO NOTE 1) (REPLD BY ITEMS 80, -80B THRU -80G) (REFER TO FIG. 4 FOR BKDN)	NP ‡	AR
(CONTINUED)					

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
1-					
-80B	5041-2-10		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	D,T	1
-80C	5041-4-10		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	D,T	1
-80D	5041-2-20		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	J,U	1
-80E	5041-4-20		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	J,U	1
-80F	5041-2-23		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	P,V	1
-80G	5041-4-23		• OUTLET ASSEMBLY (REPLS ITEM -80A) (REFER TO FIG. 4 FOR BKDN)	P,V	1
-90	5507SERIES		• OUTLET ASSEMBLY, SERIES (SPN 5507 SERIES) (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	† ‡	AR
-90A	5507-00		• OUTLET ASSEMBLY (REFER TO NOTE 1) (REPLD BY ITEMS 90, -90B THRU -90G) (REFER TO FIG. 5 FOR BKDN)	NP ‡	AR
-90B	5507-2-10		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	E	1
-90C	5507-4-10		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	E,F	1
-90D	5507-2-20		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	K	1
-90E	5507-4-20		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	K,L	1
-90F	5507-2-23		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	Q	1
-90G	5507-4-23		• OUTLET ASSEMBLY (REPLS ITEM -90A) (REFER TO FIG. 5 FOR BKDN)	Q,R	1
(CONTINUED)					

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
1-					
-100	802856-01		• OUTLET ASSY, FULL FLOW (REFER TO FIG. 6 FOR BKDN)	‡	AR
110	DPB153		• OUTLET ASSY, FULL FLOW	‡	AR
-110A	DPB153		• OUTLET ASSY, FULL FLOW	G,M,S, T-V	1
-120	MS27769S2		• PLUG, OUTLET (SPN 6818-01)	‡	AR
-120A	MS27769S2		• PLUG, OUTLET (SPN 6818-01)	F,L,R	1
-130	10008298		• OUTLET ASSEMBLY	‡	AR
140	10009255		• DECAL, OXYGEN		1
150	10006442		• DECAL, WARNING		1

* This P/N is not procurable (NP), however, refer to Figure 1001 (Part Number Configuration Matrix) to build a complete P/N that is procurable. A complete P/N provides information about the style of: cylinder and regulator assembly, cylinder finish, harness, and outlet information. Refer to DESCRIPTION AND OPERATION, Part Number Rules for building a valid part number.

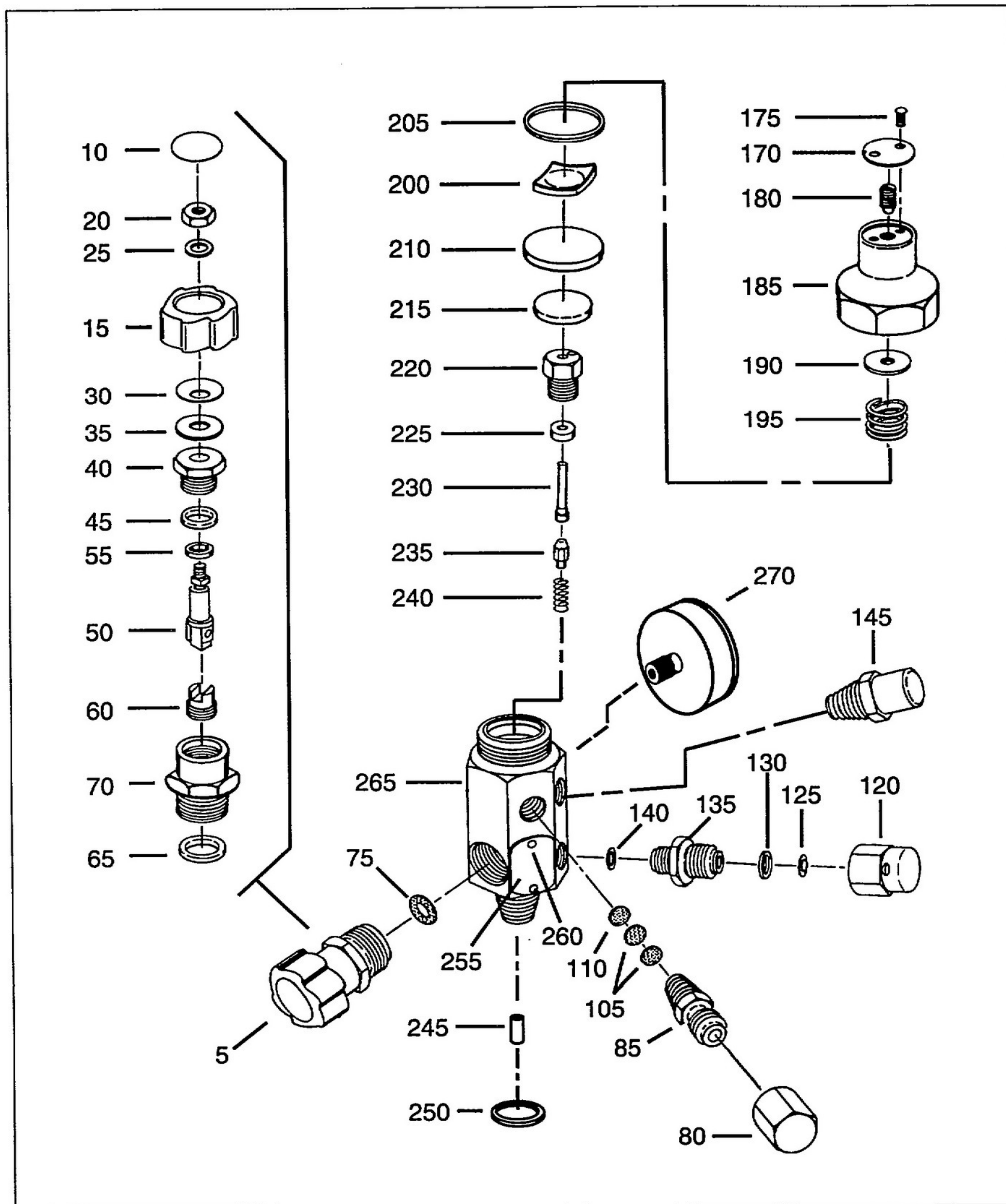
† This P/N is not a procurable part (NP), however, refer to Figure 1002 (Part Number Configuration Matrix) to build a complete P/N that is procurable. A complete P/N provides information about: outlet basic part number, flow rate settings and altitude settings.

‡ Refer to Figure 1001 (Part Number Configuration Matrix) in this section and the complete P/N of the Portable Cylinder Assembly for the effectivity of this part.

NOTE 1: This part is replaced by the complete P/N that includes the flow rate and altitude. Refer to Figure 1002 for the complete P/N.

- ITEM NOT ILLUSTRATED

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Regulator Assembly
Figure 2

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
2-1	803199-04		REGULATOR ASSEMBLY, 2 OUTLET (REFER TO IPL FIG. 1 FOR NHA)	A	RF
-1A	803199-05		REGULATOR ASSEMBLY, 3 OUTLET (REFER TO IPL FIG. 1 FOR NHA)	B	RF
5	5520-15		• VALVE KIT, ON/OFF		1
10	22427-01		•• PLATE, ID		1
15	23274-05		•• HANDLE		1
			ATTACHING PARTS		
20	AN345C10		•• NUT (SPN 18463-00)		1
25	19147-00		•• WASHER, EXTERNAL LOCK		1

30	22445-01		•• WASHER, SPRING		1
35	5511-00		•• WASHER, FLAT		2
40	23394-01		•• NUT, PACKING		1
45	2-016V747-75		•• PACKING, PREFORMED (V02697) (SPN 55620-01)		1
50	10007887		•• STEM, VALVE		1
55	5517-00		•• SEAT, TEFLON		1
60	802883-01		•• HEAD ASSEMBLY, VALVE		1
65	2-113V747-75		•• PACKING, PREFORMED (V02697) (SPN 55620-02)		1
70	23393-01		•• BUSHING		1
75	5522-00		• FILTER		1
80	804202-01		• CAP ASSEMBLY, FILLER		1
85	5093-01		• VALVE ASSEMBLY, CHARGING		1
105	8385-00		• FILTER		2
110	8384-00		• FILTER		1
-115	801421-01		• OUTLET ASSEMBLY, SAFETY		1
120	26565-00		•• CAP		1
125	10003742		•• DISC, SAFETY (SILVER)		1
-125A	10006001		••• OPT (BRASS)		
			(CONTINUED)		

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
2-					
130	6555-00		•• GASKET		1
135	26567-00		•• PLUG, SAFETY		1
140	6370-00		• WASHER		1
145	5043-14		• VALVE ASSEMBLY, RELIEF		1
170	5056-00		• PLATE, ID		1
			ATTACHING PARTS		
175	MS35207-202		• SCREW, PAN HD, #2-64 X 0.188" (SPN 33326-202)		2

180	28705L4C6C		• SETSCREW (V50394) (SPN 37008-02)		1
185	5005-03		• CASE, SPRING		1
190	8561-02		• GUIDE, SPRING		1
195	5003-00		• SPRING, ADJUSTING		1
200	5034-00		• PLATE, DIAPHRAGM		1
205	5033-00		• RING, SLIP		4
210	5032-01		• DIAPHRAGM		1
215	5031-00		• PLATE, THRUST		1
220	5030-01		• HOLDER, SEAT		1
225	803129-01		• SEAT ASSEMBLY		1
230	5028-00		• PIN, THRUST		1
235	5002-00		• GUIDE, THRUST PIN		1
240	5027-00		• SPRING		1
245	10003305		• TUBE		1
250	59776-01		• SEAL, METAL BOSS		1
255	5057-14		• PLATE, ID		1
			ATTACHING PARTS		
260	18341-00		• SCREW, DRIVE		2

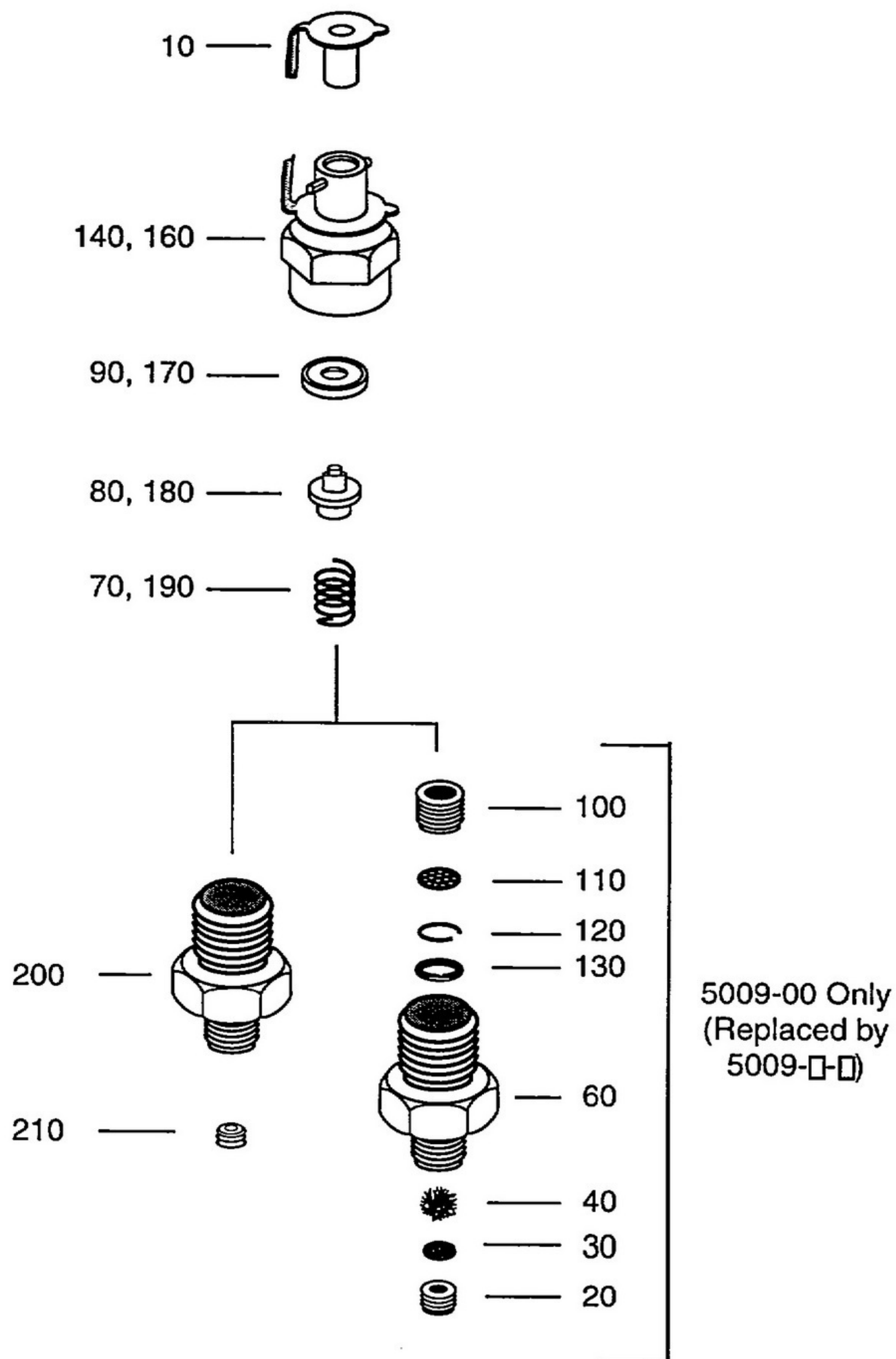
265	27170-05		• BODY, 2 OUTLET	A	1
-265A	27170-06		• BODY, 3 OUTLET	B	1
270	2661-04		• GAUGE		1

- ITEM NOT ILLUSTRATED

35-32-02

Page 1022
Apr 1/96

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Outlet Assembly (5009 Series)
Figure 3

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
3-1	5009SERIES		OUTLET ASSY, SERIES * (SPN 5009 SERIES) (REFER TO FIG. 1 FOR NHA.)	A	RF
-1A	5009-00		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLD BY ITEMS -1, -1B THRU -1N) NP	B	RF
-1B	5009-2-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	C	RF
-1C	5009-2-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	D	RF
-1D	5009-2-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	E	RF
-1E	5009-2-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	F	RF
-1F	5009-3-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	G	RF
-1G	5009-3-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	H	RF
-1H	5009-3-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	J	RF
-1J	5009-3-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	K	RF
-1K	5009-4-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	L	RF
-1L	5009-4-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	M	RF
-1M	5009-4-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	N	RF
-1N	5009-4-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	P	RF
10	59447-00		• COVER, DUST		1
20	5014-00		• SCREEN, ORIFICE ADJ NP (REFER TO NOTE 1)	B	1
30	5013-00		• SCREEN (REFER TO NOTE 1) NP	B	1
40	50330-00		• CORD (REFER TO NOTE 1) NP	B	AR
-50	5009-01		• OUTLET ASSEMBLY NP (REFER TO NOTE 1)	B	1
60	10001494		•• STUD (REFER TO NOTE 1) NP	B	1
70	5065-06		•• SPRING	B	1
80	24823-00		•• VALVE	B	1
90	5065-08		•• GASKET	B	1
100	10001493		•• PORT, FLOW (REFER TO NOTE 1) NP	B	1
(CONTINUED)					

- ITEM NOT ILLUSTRATED

35-32-02

Page 1025
Apr 1/96

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
3-					
110	5065-04		•• FILTER (REFER TO NOTE 1) NP	B	1
120	5065-02		•• RING, RETAINING (REFER TO NOTE 1) NP	B	1
130	5065-03		•• GASKET (REFER TO NOTE 1) NP	B	1
140	24825-00		•• RECEPTACLE B	B	1
-150	804376-01		• OUTLET SUBASSEMBLY (REFER TO NOTE 1) NP	A,C-P	1
160	24825-00		•• RECEPTACLE	A,C-P	1
170	5065-08		•• GASKET	A,C-P	1
180	24823-00		•• VALVE	A,C-P	1
190	5065-06		•• SPRING	A,C-P	1
200	10008915		•• STUD (REFER TO NOTE 1) NP	A,C-P	1
210	50775SERIES		• ORIFICE, SERIES (SPN 50775 SERIES) (REFER TO NOTE 1) NP		1

* This P/N is not procurable (NP), however, refer to Figure 1002 (Part Number Configuration Matrix) to build a complete P/N that is procurable. A complete P/N provides information about: outlet basic part number, flow rate settings and altitude settings.

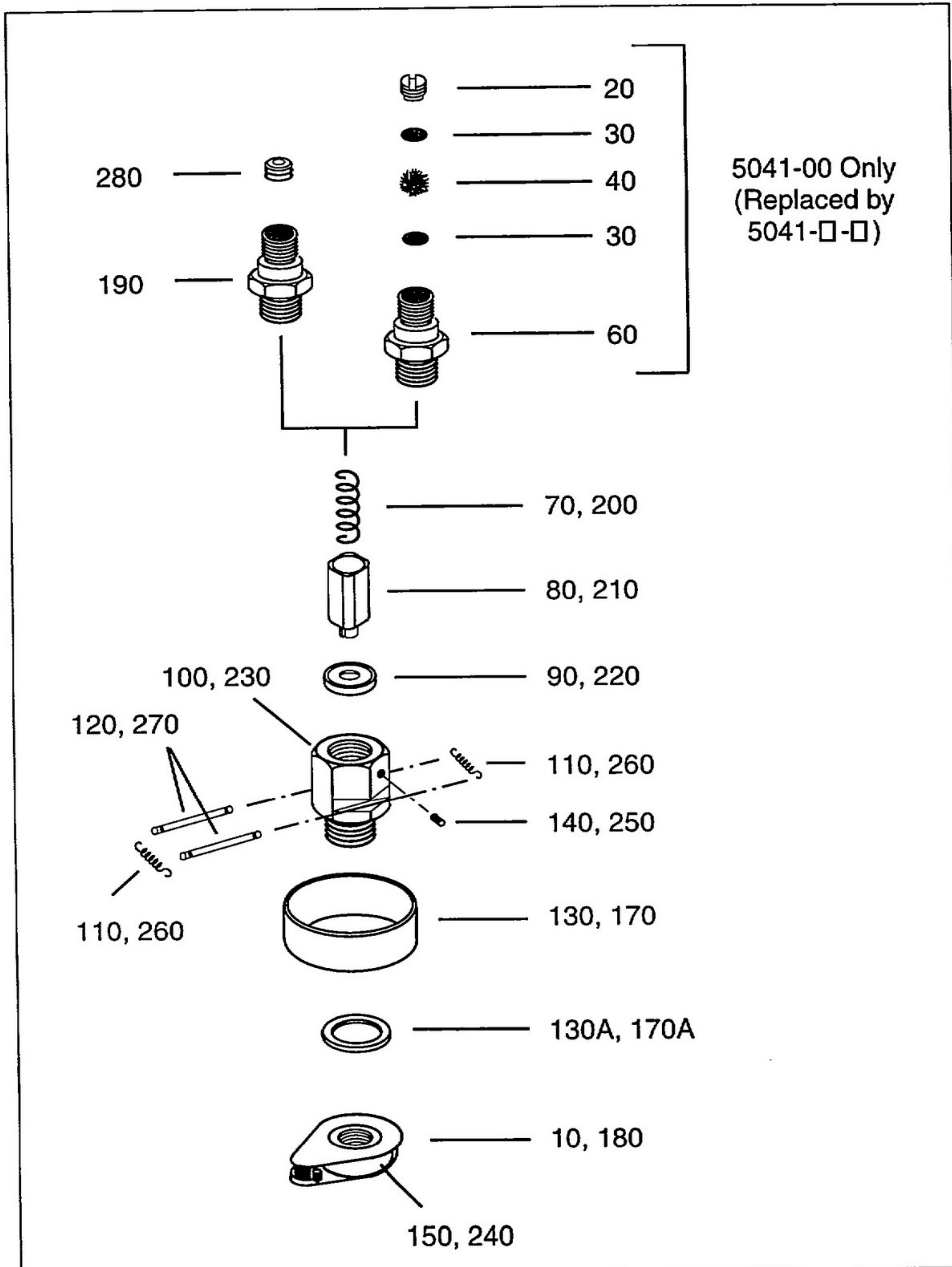
NOTE 1: A replacement part cannot be ordered for this part, a complete outlet assembly must be ordered. Refer to Figure 1002 in this section for a replacement outlet assembly.

- ITEM NOT ILLUSTRATED

35-32-02

Page 1026
Apr 1/96

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Outlet Assembly (5041 SERIES)
Figure 4

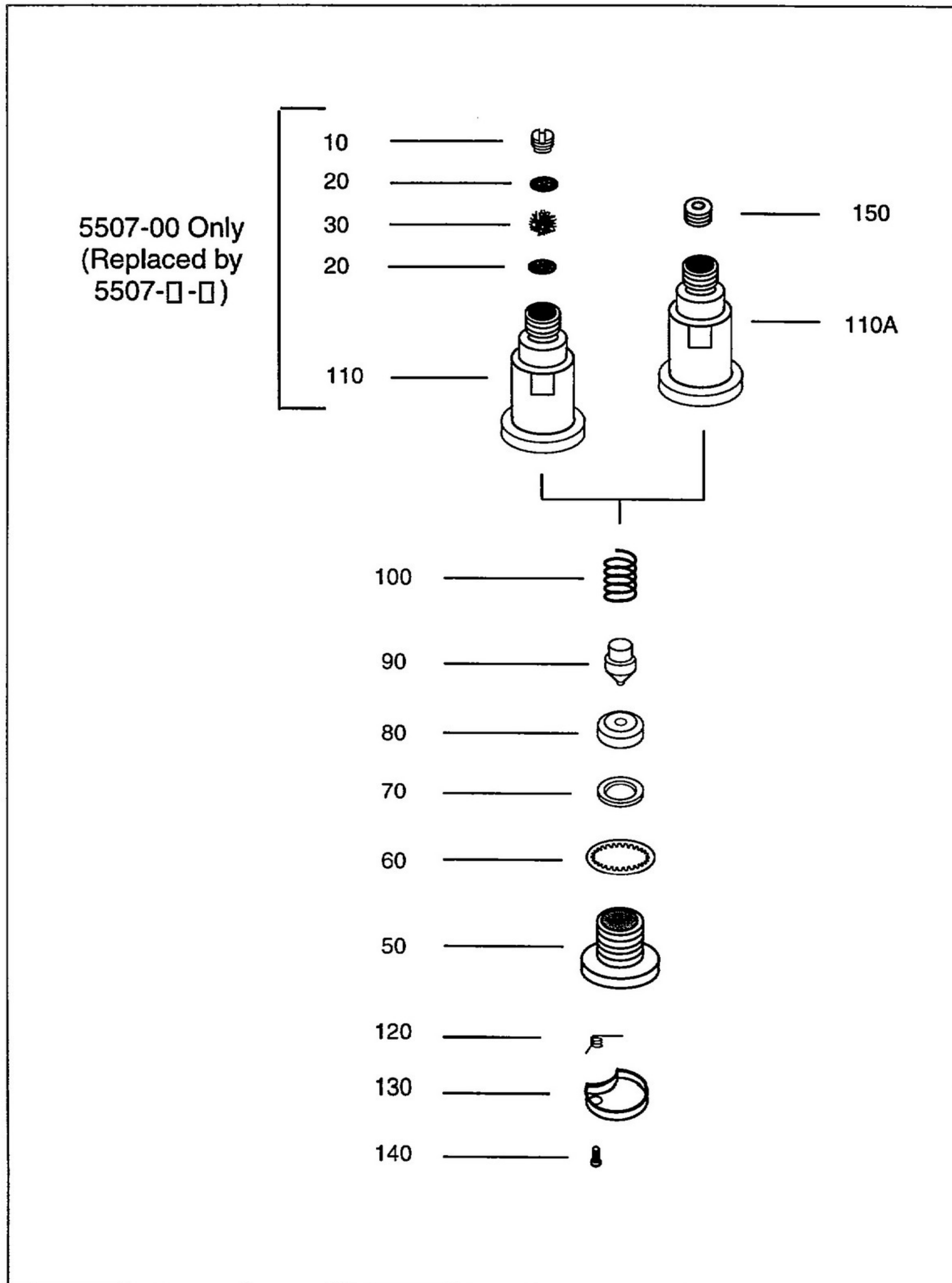
FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
4-1	5041SERIES		OUTLET ASSY, SERIES * (SPN 5041 SERIES) (REPLS ITEM -1A)	A	RF
-1A	5041-00		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLD BY ITEMS -1, -1B THRU -1N) NP	B	RF
-1B	5041-2-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	C	RF
-1C	5041-2-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	D	RF
-1D	5041-2-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	E	RF
-1E	5041-2-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	F	RF
-1F	5041-3-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	G	RF
-1G	5041-3-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	H	RF
-1H	5041-3-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	J	RF
-1J	5041-3-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	K	RF
-1K	5041-4-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	L	RF
-1L	5041-4-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	M	RF
-1M	5041-4-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	N	RF
-1N	5041-4-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	P	RF
10	59558-01		• COVER, DUST	B	1
20	5014-01		• SCREW (REFER TO NOTE 1) NP	B	1
30	5013-01		• SCREEN (REFER TO NOTE 1) NP	B	2
40	50330-00		• CORD (REFER TO NOTE 1) NP	B	AR
-50	5041-01		• OUTLET ASSEMBLY NP	B	1
60	29550-00		•• BODY (REFER TO NOTE 1) NP	B	1
70	59551-00		•• SPRING	B	1
80	29552-00		•• VALVE	B	1
90	29553-01		•• SEAT, VALVE	B	1
100	29554-00		•• CASE	B	1
110	29555-00		•• SPRING	B	2
120	29556-00		•• PIN	B	2
(CONTINUED)					

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
4-					
130	5042-01		•• CAP	B	1
130A	5042-02		•• WASHER	B	1
140	29567-00		•• SETSCREW	B	1
150	29557-00		• NUT	A	1
-160	804329-01		• OUTLET SUBASSEMBLY (REFER TO NOTE 1)	NP A,C-P	1
170	5042-01		•• CAP	A,C-P	1
170A	5042-02		•• WASHER	A,C-P	1
180	29558-01		•• COVER, DUST	A,C-P	1
190	10008934		•• BODY (REFER TO NOTE 1)	NP A,C-P	1
200	29551-00		•• SPRING	A,C-P	1
210	29552-00		•• VALVE	A,C-P	1
220	29553-01		•• SEAT, VALVE	A,C-P	1
230	29554-00		•• CASE	A,C-P	1
240	29557-00		•• NUT	A,C-P	1
250	29567-00		•• SETSCREW	A,C-P	1
260	29555-00		•• SPRING	A,C-P	2
270	29556-00		•• PIN	A,C-P	2
280	50775SERIES		• ORIFICE, SERIES (SPN 50775 SERIES) (REFER TO NOTE 1)	NP	1
<p>* This P/N is not procurable (NP), however, refer to Figure 1002 (Part Number Configuration Matrix) to build a complete P/N that is procurable. A complete P/N provides information about: outlet basic part number, flow rate settings and altitude settings.</p> <p>NOTE 1: A replacement part cannot be ordered for this part, a complete outlet assembly must be ordered. Refer to Figure 1002 in this section for a replacement outlet assembly.</p>					

- ITEM NOT ILLUSTRATED

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Outlet Assembly (5507 Series)
Figure 5

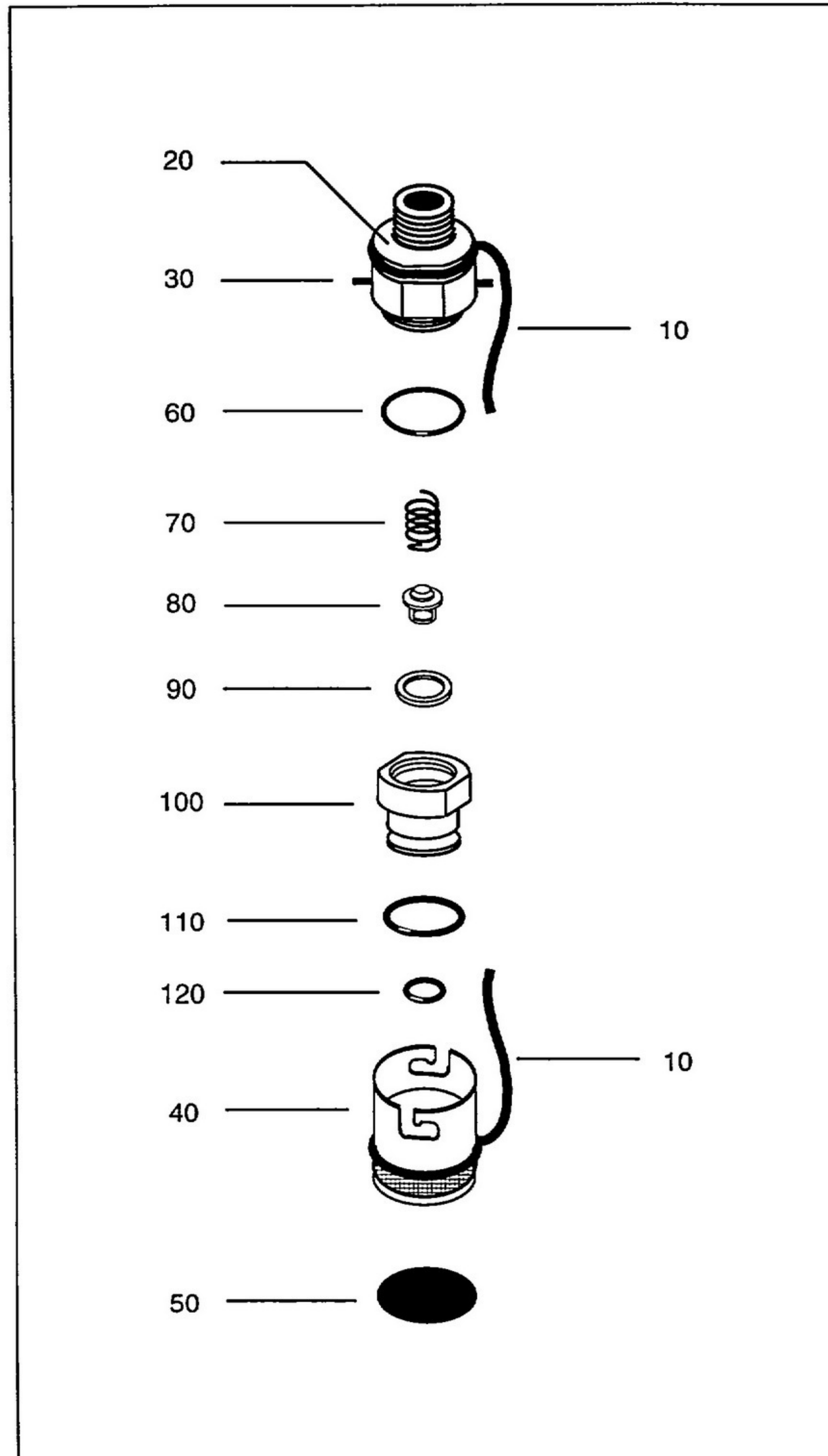
FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
5-1	5507SERIES		OUTLET ASSY, SERIES * (SPN 5507 SERIES) (REPLS ITEM 1A)	A	RF
-1A	5507-00		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLD BY ITEMS -1, -1B THRU -1N) NP	B	RF
-1B	5507-2-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	C	RF
-1C	5507-2-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	D	RF
-1D	5507-2-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	E	RF
-1E	5507-2-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	F	RF
-1F	5507-3-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	G	RF
-1G	5507-3-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	H	RF
-1H	5507-3-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	J	RF
-1J	5507-3-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	K	RF
-1K	5507-4-10		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	L	RF
-1L	5507-4-20		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	M	RF
-1M	5507-4-23		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	N	RF
-1N	5507-4-25		OUTLET ASSY (REFER TO FIG. 1 FOR NHA) (REPLS ITEM -1A)	P	RF
10	5014-01		• SCREW (REFER TO NOTE 1) NP	B	1
20	5013-01		• SCREEN (REFER TO NOTE 1) NP	B	2
30	50330-00		• CORD (REFER TO NOTE 1) NP	B	AR
-40	5533		• OUTLET ASSEMBLY (REPLD BY ITEM -40A) (REFER TO NOTE 1) NP	B	1
-40A	5533-00		• OUTLET ASSEMBLY (REPLS ITEM -40) (REFER TO NOTE 1) NP		1
50	804201-01		•• ADAPTOR ASSEMBLY, THREADED		1
60	10008774		•• WASHER, FLATTENED		1
(CONTINUED)					

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
5-					
70	10008601		•• WASHER		1
80	10008602		•• GASKET		1
90	10008603		•• POPPET		1
100	10008594		•• SPRING, FLOW STOP		1
110	10008597		•• BODY (SUPSD BY ITEM 110A) (REFER TO NOTE 1)	NP B	1
110A	10008947		•• BODY (SUPSDS ITEM 110) (REFER TO NOTE 1)	NP A,C-P	1
120	10008596		•• SPRING, TORSION	A,C-P	1
130	10008595		•• COVER, DUST	A,C-P	1
140	10008660		•• SCREW, FILLISTER HD WITH INSERT	A,C-P	1
150	50775SERIES		• ORIFICE, SERIES (SPN 50775 SERIES) (REFER TO NOTE 1)	NP A,C-P	1
<p>* This P/N is not procurable (NP), however, refer to Figure 1002 (Part Number Configuration Matrix) to build a complete P/N that is procurable. A complete P/N provides information about: outlet basic part number, flow rate settings and altitude settings.</p> <p>NOTE 1: A replacement part cannot be ordered for this part, a complete outlet assembly must be ordered. Refer to Figure 1002 in this section for a replacement outlet assembly.</p>					

- ITEM NOT ILLUSTRATED

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Outlet Assembly (802856-01)
Figure 6

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF. CODE	UNITS PER ASSY
6-1	802856-01		OUTLET ASSY (REFER TO FIG 1 FOR NHA)	A	RF
10	10008644		• RETAINER, DUST COVER		1
20	10005614		• FITTING, DISCONNECT		1
30	36874-01		• PIN, GROOVE		2
40	10005617		• DUST COVER		1
50	27511-01		• LABEL, WARNING		1
60	36862-02		• PACKING, PREFORMED		1
70	36588-04		• SPRING, POPPET		1
80	10005616		• POPPET, DISCONNECT		1
90	36636-01		• RING, QUAD		1
100	10005615		• BODY, DISCONNECT		1
110	18012-00		• PACKING, PREFORMED		1
120	55622-00		• PACKING, PREFORMED		1

- ITEM NOT ILLUSTRATED

35-32-02

Page 1037/1038
Apr 1/96